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THE RESOURCEFUL GENERAL PRACTITIONER OF MODERN MEDICINE *

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The time has come for plain statements in regard to modern medical practice, with the purpose of bringing the public and the members of the medical profession as a whole back to good common sense views. It is my purpose to attempt to show how the general practitioner may continue to occupy the important place in the field of practice which was his until recently. For the time being, therefore, specialists in medicine and surgery and special forms of the prevailing methods of modern practice, such as diagnostic groups and pay clinics, will not be discussed.

In a consideration of the general practitioner it will be necessary to discuss the opportunities which he enjoys, and the problems and difficulties which beset him. In their work, not all general practitioners are resourceful and sure of themselves. This fault is due in some instances to inadequate early training, but in a majority of men it is due to laziness and failure to take advantage of the opportunities afforded all physicians. From the time of his graduation until he retires from work, the whole professional life of the physician affords opportunities to study morbid processes as evidenced by anatomic changes and altered function and so to manage and treat the patient that partial or complete restoration occurs—dependent, in part, on the nature of the malady. The physician who makes all possible use of his daily clinical opportunities learns something new and useful every remaining day of his professional life.

The determination to take advantage of the daily clinical opportunities and of other educational available aids are the essential factors which produce resourcefulness and ability in the physician. Naturally, this daily clinical study develops the powers of observation and manual dexterity in physical examination and in treatment. The knowledge which this ever increasing experience affords is refined and stabilized by purposeful reading of standard textbooks and periodicals, by association with fellow practitioners and in discussion of papers read before medical societies, and by writing papers on subjects which the physician's daily clinical observations justify.

Something additional must be said of the educational aids available to physicians in most communities. Although medical books and periodicals are relatively expensive, most physicians can afford standard textbooks on physical diagnosis, practice of medicine, general surgery, obstetrics, pediatrics, dermatology, neurology and on other special subjects which they feel are necessary, and one or two good general medical periodicals, which should include THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. The daily clinical observations fortified by selective reading in standard textbooks and good medical journals afford a method of self-education of the greatest value.

Membership in and active participation in the work of the county medical society is of great educational benefit to the physician. It affords personal contact with fellow practitioners in the courteous discussion of medical subjects and professional problems, promotes mutual respect and good will, and is a potent factor conducive to increased self-respect and self-reliance on the one hand, and to a decrease in the size of the hat, if imaginary megalocephaly makes one a nuisance to his fellows.

Concisely written reports of interesting clinical observations presented before medical societies and for publication are a splendid means of self-education, and are justified because they furnish a valuable addition to medical literature. In this connection it will be recalled that some of the best and earliest clinical descriptions of epidemic cerebrospinal meningitis, infantile paralysis and other epidemic diseases prevailing in the United States were written by the rural general practitioners, and in some instances in pioneer sections of the country.

DIAGNOSIS

Diagnosis is the most important factor in the practice of medicine. Until the diagnosis is made, treatment may be ineffectual and often is irrational. Modern medical science is characterized by the development of many laboratory and instrumental methods of diagnosis. Concerning these I repeat what has been said on several occasions: With due regard for the value and need of all the splendid ultrascientific laboratory and instrumental methods of physical and functional diagnosis in investigatory medical work, they are needed in the routine clinical care of not to exceed 20 per cent. of all the patients of any urban or rural community. Unfortunately, many lay people have been made to believe and apparently a large number of physicians think that the routine application of the ultrascientific methods of diagnosis is necessary in the majority of cases. The fact is that the diagnosis can be made in fully 80 per cent. of all cases by a resourceful general practitioner who will efficiently use his brain, special senses, hands and an always available simple and inexpensive laboratory and instrumental equipment. In a discussion of the means of diagnosis available to the general practitioner, the history of the past and present condition of the patient is one of the most important, if not the most essential, factor.

* Read before the Tri-State District Medical Association, Peoria, Ill., Oct. 31, 1922.

MEDICAL HISTORY

To obtain a satisfactory medical history is an art which can be perfected by painstaking care and experience. The difficulties encountered in garrulous, taciturn, conceited, opinionated and stupid patients can usually be overcome by patience and tact. In most instances the patient can be encouraged to tell a rational story of the main symptoms of the complaint. The physician should be careful not to misdirect the story of the patient by questions which may encourage indicated replies, but should guide the patient in his story to an orderly recitation of symptoms referring to the most important complaints. If the symptoms refer to the gastro-intestinal tract, the quiz should be confined to this subject until all necessary information is obtained, before proceeding to any other system of the body. This orderly method of procedure impresses the patient with the importance of accuracy of statement; and if each system of the body is taken up in turn and completed, the information obtained will be amplified, will be of greater value, and in the end will save time. In addition to the symptoms of the present disease, in chronic conditions, especially, it is very important to obtain accurate information of former diseases because of the possibility of a relationship to the present condition. It is also important to learn the habits of the patient in regard to food, drink, sleep, work, recreation and the habitual use of tobacco, alcohol and drugs. If insufficient training and lack of experience at the beginning of the professional career prevents the physician from obtaining from the patient all the information available, this will be overcome by taking advantage of the daily experience in clinical observation, selective reading, attendance on society meetings, and other methods of professional advancement. A majority of practitioners do not make written records of their patients: these are absolutely essential to accuracy in diagnosis and efficiency in practice. To obtain an efficient history and make a written record require time. Many practitioners have told me they could not afford the time to do this. My own experience justifies the statement that this is a mistake. Accurately written records, brief though they be, properly filed to be available for future reference, are time-savers of the future weeks, months and years. As written records of patients accumulate and are properly filed to be available, the practitioner possesses information which attaches patients and their families to him and affords him time-saving data of inestimable value in the future care of patients and as material for medical reports and papers to be presented to medical societies or for publication.

PHYSICAL EXAMINATION

The conscientious practitioner will make a careful, general physical examination of practically all patients who seek his services. An occasional patient with a slight ailment, and especially those with slight injuries or lesions requiring surgical treatment, are exceptions. But with many patients the present complaint is often an expression of an older morbid process which has been disregarded by the patient or overlooked by the physician. The physical examination must be made methodically. I need not mention what should be learned by inspection, palpation and auscultation. If each is used carefully, and if the results recorded to insure accuracy are considered with the findings of the available simple laboratory and other tests, these valuable positive and negative data will enable the physician to make a probable diagnosis. In some instances, further examinations may be necessary to reach a true diagnosis. Here, again, the daily opportunity in clinical and laboratory examinations, and the correlation of the findings affords an experience which will insure steady improvement in technical skill and in judgment. Daily practice in technic and judgment is the program which every physician must follow to become a skilled diagnostician. The practitioner can gain much by observing others at work in organized clinics or by taking postgraduate courses in diagnosis, when these are available; but the efficiency of the practitioner in diagnosis is mainly dependent on his own industry and determination to make the most of his own clinical opportunities.

SPECIAL EXAMINATIONS

The general practitioner cannot be proficient in the more refined methods of examination which are necessary in the practice of the specialties of medicine and surgery. But he can and should be able to recognize the more common diseases of the eye, ear, pharynx, accessory nasal sinuses, locomotor apparatus, rectum and female pelvic organs with the simple available means at hand; furthermore, he should possess and use in routine practice a simple chemical equipment and standardized urinometer for urinalysis, a microscope, blood counter, hemoglobinometer, rectal, aural and vaginal specula, laryngeal mirrors, head mirror, blood pressure instrument, stethoscope, stomach tube; and an inexpensive electric light device, with storage battery, if this is needed, is now available for transillumination of the accessory nasal sinuses, jaws and other tissues. Daily use of these instruments will develop technical skill and make them valuable aids in diagnosis.

There is a growing custom in urban practice for general practitioners to have the routine laboratory examinations, such as urinalysis, blood estimations and other simple tests, made and the results interpreted for them at the numerous available commercial laboratories. In my opinion this is a great fault in practice; it would be quite as rational for the practitioner to depend on available organized clinics for the physical examinations and diagnosis of patients.

For the few patients who require laboratory or instrumental tests which involve special knowledge and technical skill in their application, such as blood chemistry, serology, bacterial cultures, elaborate blood counts, electrocardiography, efficient roentgenology and the like, the practitioner should make use of the excellent commercial laboratories, public clinics and available state, county and municipal public health laboratories.

PHYSIOLOGY AND MODERN MEDICINE

Modern medicine is still engaged with the importance of the morbid anatomic lesion as to its etiology, nature, evolution and its modifications by management and treatment. But, today, we have quite as great a concern in the coincident functional disorder. That is, a study of pathologic physiology is recognized as of great importance in the practice of medicine. Therefore, the interest in pathologic physiology has resulted in the elaboration of laboratory and instrumental functional tests in diagnosis which require such great technical skill and experience in their application that they are valueless to the general practitioner. Fortunately, these refinements in functional diagnosis are not needed in more than 20 per cent. of the patients of any community. Unfortunately, the clinicians and laboratory workers who have devised these tests and

instruments have not indicated how some of the ultra-scientific functional tests may be modified to make them utilizable by the general practitioner. It is my privilege to attempt to describe how the physician may use available simple methods to ascertain the approximate function of some morbid anatomic conditions.

CHRONIC NEPHRITIS

As a rule, the general practitioner has the opportunity to see patients in the early stage of disease. At any rate, most patients with chronic disease seek aid comparatively early. Therefore, the general practitioner will have an opportunity to test out the function of organs with manifest morbid anatomic changes before severe constitutional symptoms develop.

When the practitioner finds albumin and casts in the patient's urine, he is justified in making a diagnosis of nephritis. But he must understand that chronic nephritis is often associated, soon or late, with morbid cardiovascular changes, varying degrees of edema of the soft tissues, dyspnea on exertion, and other symptoms and signs indicative of constitutional disturbance.

To appreciate and comprehend the relationship between nephritis and the morbid tissue changes in other portions of the body, I would recommend that the general practitioner adopt the excellent clinical classification of nephritis made by Dr. Henry A. Christian of Harvard, which is as follows:

1. Acute nephritis.
2. Chronic nephritis:
   (*a*) With edema.
   (*b*) With vascular hypertension.
   (*c*) Mixed or combined type.
3. Essential vascular hypertension progressing to chronic nephritis.
4. Renal arteriosclerosis progressing into chronic nephritis.

This is not a formidable and incomprehensible classification such as prevails in the literature, but is a good working basis for every-day practice.

Now, the general practitioner is likely to discover evidence of nephritis in his patients before the constitutional disturbances appear. However, he should know that constitutional evidences of the body changes associated with chronic nephritis may be present, and should make a thorough physical examination, which will include the blood pressure, the condition of the heart, the presence or absence of edema in the soft tissues, and the presence or absence of dyspnea on exertion.

He should avail himself of a simple means of testing the function of the kidneys. The kidney excretes water, salts, and nitrogenous and other elements. The epithelial cells lining the kidney tubules possess the special function to resorb the threshold elements, such as sodium chlorid, from the water which reaches the tubules from the blood passing through the glomeruli. Were it not for this important function of the kidney, the blood and other body fluids would be deprived of the necessary amount of these threshold substances to maintain their chemical and physical equilibrium, which would be disastrous to life.

The general practitioner can test with approximate accuracy the ability of the kidney to excrete water and salines by the following simple method:

For a patient living in the ordinary routine, the urine of the night is collected for a period of twelve hours, is measured, and the specific gravity is taken and noted. At noon the patient is given a liberal mixed meal containing meat and other albumins, and a liberal amount of common salt as a condiment. Following the meal, the urine is collected in a separate receptacle every hour for four or five hours, is measured, and the specific gravity of each specimen is noted. On the second day, in the morning while fasting, the patient drinks three or four pints of pure water. Then for five hours the urine is collected in a separate receptacle every hour, measured, and the specific gravity of each specimen is taken and noted.

These tests afford the following information: The ability of the kidney to excrete water, which is evidenced by the increase of the water output during the fasting period when the patient is drinking water freely, as compared with the bulk of urine passed during the night and that excreted after the hearty meal. The ability of the kidney to concentrate and excrete salines, which is evidenced by a specific gravity of higher degree of the specimens of urine voided after the hearty meal, when compared with the specific gravity of the night urine and of the specimens voided while taking water freely. The ability of the kidneys to concentrate and excrete salts indicates a fairly good function in the excretion of nitrogenous waste and other poisons. The tests will show a very good function of the kidney when the urine is notably increased by water drinking, and when the specific gravity of the urine taken after the hearty meal is comparatively high. The reverse of these findings would indicate poor or very bad function. These tests will be of the greatest value in those patients who show little or no constitutional disturbance. A patient who is suffering from anasarca would be unsuitable for these tests because, no matter what the cause of the dropsy, the power of the kidney to excrete water would probably be poor.

The utility of the test depends on its use in the early stage of nephritis. When so used, the information given will enable the practitioner to give a rational prognosis, and to apply appropriate management and treatment.

For those patients who show very poor function of the kidneys, the conscientious practitioner will desire to apply more refined functional tests of the kidneys. If his patient is financially able, he can be sent where blood chemistry and other tests may be applied. For the poor who are unable to pay for the transportation necessary to reach these centers, there is at present no usual means to afford them this important service. Later I shall mention what should be furnished each community to make available to the practitioner the refinements in diagnosis and in treatment which a few patients require.

Lack of time and space prevents a consideration of the various types of nephritis, their recognition and the indicated management and treatment. The subject is important, but would require more time than is allotted for its consideration alone. However, if the practitioner has the ambition and the energy to perfect himself in a knowledge of nephritis, he may avail himself of the excellent literature of recent periods, and especially of the reports of Dr. Henry A. Christian and his co-workers in the Peter Bent Brigham Hospital at Boston.

HEART DISEASE

The condition of the myocardium and the ability of the heart muscle to function is a question of far greater importance to the patient and to the general practitioner than the anatomic diagnosis. As long as the myocardium has the ability to function anywhere near normally, the patient's health, as far as the heart is concerned, is usually fairly good, and there is no immediate

jeopardy to life. It is true that degenerative changes in the myocardium are caused by or are hastened by certain morbid anatomic lesions. For example, mitral stenosis interferes mechanically with the passage of blood through the heart, causing overwork, dilatation of the left auricle, and comparatively rapid myocardial changes.

In heart conditions the practitioner should avail himself of every available simple means to acquaint himself with the anatomic condition of the heart; that is, its size, the presence or absence of murmurs, and its rhythm, and at the same time should note by careful physical examination the presence or absence of other morbid conditions of the body. For example, he may find toxic goiter, chronic nephritis, neurosis associated with neurasthenia, and other constitutional disturbances which cause heart symptoms.

To test the functions of the heart, he should have the patient exercise for short periods of a minute or less, with a rest period following, by hopping on one foot for fifty to a hundred times, by walking or running for twenty-five or fifty yards, by climbing stairs, or by calisthenic exercise of any kind. Before, during and after the exercise, the rapidity, rhythm of the heart action and the number per minute of the radial pulse should be noted, the presence or absence of undue dyspnea, the presence or absence of actual pain in the heart region, and changes in the color of the skin. If a patient is able to take these exercises without great objective disturbance of the heart, which would include a return of the number per minute of normal heart beats or the number before exercise, within one minute after the cessation of any one form of exercise, the manifest anatomic diagnosis is unassociated with any serious damage to the myocardium. On the other hand, if the pulse remains rapid after exercise for three or four minutes, if the patient has an undue dyspnea on exertion and there is evident precordial pain and disturbance of the circulation of the skin, the myocardium is damaged and requires rational management and treatment.

In 1918, while in England, I visited the heart military camp at Colchester, which was under the direction of Sir Thomas Lewis. The patients in the camp were soldiers on furlough with disability due to alleged heart disease. As you are aware, Sir Thomas Lewis has been one of the most efficient investigators of the normal and pathologic physiology of the heart and of its diseases. In this work of investigation he utilized the electrocardiograph and the polygraph. At this heart camp I was gratified to find that he did not maintain a laboratory with these instruments of precision which he used in his investigatory work, but relied entirely on the simple available means of diagnosis which are possessed by every practitioner of medicine. After making a complete physical examination of each patient to ascertain the presence or absence of other constitutional disturbances, he noted the presence or absence of heart murmurs, the presence or absence of hypertrophy, and then tested the function of the heart by the means I have outlined. By these measures he was able to make an accurate estimate of the heart condition of the soldiers, and a majority of them were returned to active duty in the field.

The general practitioner can learn to do this himself; furthermore, if he will follow this method of practice he will be able to allay the anxiety of many of these patients by giving a rational prognosis based on the ability of the heart to function. For those patients with heart lesions who present evidences of poor function, he will apply the appropriate treatment, referring those who require greater knowledge and technical skill than he possesses to qualified colleagues. Time and space do not permit a discussion of the treatment of the failing heart. I will recommend that the general practitioner secure and read Clinical Diseases of the Heart, by Sir Thomas Lewis, and also Diseases of the Heart, by Sir James Mackenzie.

DISEASES OF THE LUNG

There is no short and easy road to the accurate diagnosis of diseases of the lung. Of these, tuberculosis is one which requires acquired skill in the application of physical diagnosis with the experience which comes from daily practice. But the physician who applies himself earnestly to physical examination of the lungs will qualify himself to recognize the evidences of pulmonary tuberculosis. The failure to recognize the disease is due to the neglect thoroughly to examine a majority of patients. Too often the patient is subjected to the expense of a roentgen-ray examination of the chest which does not reveal, as a rule, morbid changes which cannot be detected by ordinary available means of physical diagnosis. As a refinement and to satisfy one's curiosity to know whether the physical findings discovered are correctly interpreted, a roentgenogram or a fluoroscopic examination may be made of the chest. It is important to examine the sputums for tubercle bacilli, and this knowledge is available to the practitioner through existing laboratories if he is not able to make the examination of the sputum himself.

DISEASES OF THE STOMACH

The technic of using the stomach tube efficiently is easily acquired, and the general practitioner should utilize this useful aid to diagnosis. By means of this instrument he will be able usually to verify the diagnosis of ulcer of the stomach or anatomic obstruction of the pylorus due to any cause, and its use will afford satisfaction. If a hearty meal is given at bedtime and the stomach tube reveals food in the stomach in the morning, it is a sure index of organic pyloric obstruction. With diseases of the stomach, as in other conditions, one must obtain a satisfactory history from the patient and make a general examination. It must be remembered constantly that gastric symptoms, particularly those ascribed to peptic ulcer, are often caused reflexly by chronic appendicitis, less frequently by gallbladder disease, and by morbid lesions of other abdominal and pelvic organs.

Carcinoma of the stomach, especially in its early stages, is more difficult of diagnosis, but the associated poor appetite, lessened strength and endurance, the incidence of pain immediately or shortly after taking food, the frequent nausea and occasional vomiting, and the low acidity of the gastric juice should make the practitioner awake to the possibility of cancer. In my opinion, in these patients, early exploration by the surgeon is justifiable with the hope that the disease, if found, may be wholly eradicated.

CHOLECYSTITIS

Cholecystitis, with or without gallstones, is of frequent occurrence in medical practice. The condition occurs with gallstones in persons past the meridian of life more frequently than in younger individuals. Frequently the disease is latent, but even here is apt to

cause functional disturbance of the digestive organs. In the absence of other symptoms pointing to intrinsic disease of the stomach, these symptoms should arouse the suspicion in the mind of the practitioner that his patient has gallbladder disease. Pain in calculous cholecystitis is rather characteristic in the fact that it is often agonizing in character and is often associated with pain at the spine of the right scapula, and in some patients it radiates to the mediastinum, and the heart is disturbed. Attacks of gallstone colic are sometimes precipitated by mental emotion, by lifting heavy weights or by riding over rough roads, and sometimes it is brought on by an overloaded stomach. When the gallstone reaches the common duct, the pain is usually aggravated, as compared with that of cystic duct stone, and jaundice usually supervenes and confirms the diagnosis. Cholecystitis, of a latent character even, is associated with tenderness of the gallbladder. This may be elicited with the patient in a supine position by percussion over the gallbladder region while the patient takes a full inspiration and maintains it for a moment. This percussion is best accomplished by placing the points of the fingers of the left hand flexed at the middle joint over the gallbladder region and striking them a sharp blow with the right hand.

APPENDICITIS

Acute appendicitis in the primary attack is practically always sudden in its onset, and is associated with a reflex nervous disturbance often manifested by nausea and vomiting, and there is usually irritation of the peritoneum, manifested by rigidity of the abdominal muscles, and tenderness over the appendix region, and there is always constitutional disturbance manifested by rise of temperature, quickened heart beat and general discomfort. In such primary attacks the disease should be treated surgically and at once. In chronic appendicitis the clinical history will usually reveal former attacks, and quite as frequently there will be associated disturbance of the stomach often simulating peptic ulcer. In my opinion, recurring appendicitis does not require the immediate surgical emergency of the primary form of the disease. But the practitioner who fails to have the patient with chronic appendicitis operated on soon or late, and especially soon, is not conscious of his responsibility to his patient.

PERNICIOUS ANEMIA

We do not know the cause of pernicious anemia. The condition is associated with morbid anatomic changes in the alimentary tract, the bone marrow, the spleen and other blood-making organs. A general examination reveals a marked anemia with deformed red blood cells, some of which are very large and others much smaller than the normal. Much is made of the usual relative percentage predominance of the hemoglobin over the percentage of red blood cells, which is expressed by a so-called plus color index. With many physicians, the diagnosis is chiefly based on the blood examination. Now, the fact is that every true case of pernicious anemia presents physical evidences which are so characteristic that the diagnosis may be made on this evidence alone when they are recognized. These consist of a smooth tongue partly or wholly denuded of its epithelium, which shows evidences of irritation amounting in some regions of the organ to inflammation, and is accompanied by burning, smarting and other discomfort. There is practically always an achylia gastrica, evidenced by the absence of acid in the gastric juice; frequent disturbances of the bowel, characterized by diarrhea, with alkaline liquid stools containing protozoa; and the pallor of the skin is characterized by a yellowish tint. The patient always presents more or less evidence of parasthenia in the form of numbness and tingling to the fingers, hands, toes and feet and sometimes extending to the proximal limbs. The practitioner is justified, therefore, in making a diagnosis of pernicious anemia when the patient presents these conditions, even if he is not able to make a thorough blood examination.

The importance of the recognition of pernicious anemia is to avoid unnecessary and expensive treatment. Under ordinary good rational management with attention paid to the diet, the avoidance of fatigue and other hygienic measures, the patient's life will be conserved, as a rule, quite as long as if he submitted to all of the modern measures practiced, including splenectomy and blood transfusion. I make this statement advisedly, based on an experience with more than two hundred patients suffering from pernicious anemia who died in spite of the application in some of them of these alleged curative forms of treatment. Time and space do not permit a discussion of other types of anemia.

ACUTE DISEASES

The problems which confront the general practitioner in the diagnosis of the acute diseases are many, but are less difficult to solve than those which are presented by many of the chronic diseases.

In these conditions he will not usually distress a patient suffering from an acute disease in an attempt to secure an exhaustive history of his family or of the habits and other data so important in the recognition of chronic diseases. Here, with the patient in bed, time may be taken, even over a period of two or three days, to make observations to insure the proper diagnosis, provided, of course, that in the contagious diseases or when one suspects or apprehends a contagious condition, the other members of the family and the community will be safeguarded by proper preventive measures. In suspected diphtheria, antitoxin will be used because it is known that the earlier the specific remedy is applied, the more likely is the life of the patient saved. The subject of the diagnosis of acute diseases is too large to enter on here. The progressive practitioner will keep himself informed of all the newer available and especially the simple methods of diagnosis, and will utilize the available commercial, clinical, state, county and municipal laboratories for the bacteriologic and serologic specific tests which are often necessary in the diagnosis of cases of acute disease. Time and space will not permit a broader discussion of diagnostic problems which are difficult of solution.

ECONOMIC CONSIDERATIONS

I am very mindful of the economic difficulties which embarrass many medical practitioners. The rural practitioner is subjected to physical and mental fatigue from long hours of work, often with insufficient sleep, and exposure to inclement weather, and frequently is inadequately paid for his services. In consequence, he is disinclined to use thorough, painstaking methods of diagnosis, becomes careless, is apt to avoid medical society meetings, and reads medical literature with but little interest. Of course, there are many exceptions.

In the city the general practitioner meets a comparatively larger number of poor pay or wholly indigent patients than are found in rural districts. The impos-

sibility of collecting an adequate fee from many poor patients begets in many city practitioners the habit of superficial methods of practice. Then, too, competition is usually great in the city, and it is probable that the average general practitioner of the city has a smaller annual income than his rural medical brother. But the city physician has opportunities for professional advancement, if he will take advantage of them, by attendance on public clinics and medical society meetings, and by reading good medical literature in accessible libraries.

But whether one is a practitioner in the city or in the country, the economic conditions peculiar to each can be greatly improved by one's own efforts. The fundamental principle which each practitioner must adopt to overcome his economic embarrassment is to improve himself professionally. To accomplish this, I believe he must steadily follow the methods of clinical practice and other self-educational opportunities which I have outlined. I sincerely believe that if he will do this, he will attract to himself a large number of patients, will receive more adequate financial reward, and will find real enjoyment in his work.

Many years ago an observing philosopher said, "The pathway to the door of the qualified man, desirious of giving honest, efficient service to the public, is worn smooth by the passage of many feet."

I believe that the preservation of the general practitioner, as the most important factor in the field of practice, is dependent, chiefly on himself. He must keep abreast of the advance of modern medical knowledge and practice, chiefly by his own efforts. If he strives to improve and help himself he will be successful; will justify his importance in the medical field, and will attract the ill and injured to his door because of his professional individual superiority as compared with men in narrower fields of practice, alone or in public or private groups.

FACILITIES NEEDED BY GENERAL PRACTITIONERS

Many general practitioners of the city lack hospital facilities for the small percentage of their patients who require hospital care. For the small number of his patients who require blood chemistry, electrocardiography and other technical refined tests, he can avail himself of the services of commercial clinical laboratories and those conducted by public and private clinics.

The practitioner in most rural communities lacks both the hospital and available laboratory facilities for the refined physical and functional diagnostic tests which his practice demands for 10 or 15 per cent. of his patients.

The necessity for the preservation of the general practitioner in the city and in rural districts, for the general public good, justifies and demands that the organized medical profession should assume leadership in educating the public to understand and comprehend the need of hospital centers, including diagnostic facilities in every community financially capable of self-support.

Perhaps this much to be desired improvement of the facilities for general practice is unattainable in most communities, for the reason that the medical profession as a whole does not accept its responsibility, and without the leadership of the medical profession the public will remain ignorant of its own welfare needs and will not act.

There is another possible solution of the problem which may afford the general practitioner the support and facilities he requires to furnish all of his patients efficient service.

PRIVATE GROUP PRACTICE

Private group practice is a modern development. If the specialists in surgery, internal medicine and the narrower fields of medicine and surgery and the laboratory experts who form the group are men of broad minds, unselfish, sympathetic and desirous of giving efficient service to the community, including the members of the medical profession not connected with the group, they could furnish a great need in city and rural practice. From 15 to 20 per cent. of the sick in a community require their specialized service in diagnosis and treatment; but they would and should act only as diagnostic consultants and advisers of treatment of patients sent by the general practitioner for these purposes only. An unselfish policy of this kind would justify private group practice, and would be a material professional assistance to the general practitioner and a great benefit to the community. On the other hand, the adoption of a selfish policy by the private group which would disregard and ignore the professional and economic welfare of the general practitioner will result in injustice to the public and disaster to the private practitioner and to the group itself.

The American family home has been and must continue to be the very foundation of this nation. Bolshevistic socialism, anarchy and public discord cannot exist in a nation of family homes. The integrity and perpetuation of this nation is dependent chiefly on the maintenance of family life; and the continuance of the family home demands the preservation of the family physician, the general practitioner.

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SUCTION IN THE TREATMENT OF LARYNGEAL DIPHTHERIA *

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With the introduction of intravenous antitoxin, direct laryngoscopy with swabbing of the larynx, and finally suction, the mortality figures in laryngeal diphtheria have gradually decreased.

HISTORY OF THE RELIEF OF THIS DISEASE

The earliest records of catheterization of the larynx, for cases of inflammatory stenosis, is found in the writings of Hippocrates. Cannulas were carried into the throat along the jaws so that air might be drawn into the lungs. This procedure was practiced until the discovery of tracheotomy by Aschopiadon in the first century B. C. Catheterization was lost sight of until 1780, when it was revived by Chaussier, who proposed the use of a laryngeal tube in the asphyxia of the new-born and to overcome obstruction due to disease.

Dissault, in 1801, and many others after him appear to have had some measure of success in the treatment of laryngeal stenosis by this method, particularly in adults; but the retention of one end of the tube in the trachea while the other protrudes either from the mouth or from the nose is obviously impracticable in children.

* A preliminary report from the croup service at Willard Parker Hospital.

THE RÔLE OF INTUBATION

The first to advocate the treatment of laryngeal obstruction by intubation was Bouchut, in 1858, and it was he who demonstrated that the larynx will tolerate a tube. The profession of Paris condemned and even ridiculed the new method and said it could only rarely supplant tracheotomy, which was used to relieve obstruction of the larynx until 1885, when O'Dwyer first introduced suitable instruments for intubation. Beginning with a tube like a bivalve speculum, he experimented for a number of years, until his well known tubes were perfected. Considerable modifications have been made since, and shortly before his death Lynah devised the non-cough-up tube.

TABLE 1.—COMPARISON WITH THE RESULTS OF PREVIOUS YEARS

	May-December	
	1921	1922
Total cases of laryngeal diphtherias	158	106
No local treatment—mild cases	43	21
Applicator treatment	13	12
Applicator and intubation	18	0
Intubation	84	18
Suction	0	46
Suction and intubation	0	9
Total deaths	41	14
Mortality	25—%	13+%

While intubation has saved many lives in diphtheria and other diseases affecting the larynx, Thomson [1] emphasized the disadvantages of intubation and stressed the value of avoiding it when possible. The tube, no matter how carefully introduced, may cause slight injuries to the larynx. A bronchopneumonia may follow; or a chronic stenosis of the larynx, requiring the prolonged use of an indwelling tube with its attending dangers, is not an infrequent result. The chronic stenosis may be due to ulceration brought about by retention of secretion and stenosis from tube decubitus.

OBVIATING INTUBATION

Loosened diphtheric membrane is frequently the cause of obstruction to the breathing, and the removal of this membrane is desired. O'Dwyer himself recognized this, for he wrote, "I have devised and tried several instruments for the removal of pseudomembrane from the trachea, but they have not proved satisfactory."

Drug therapy had failed to eliminate the membrane, and not until the introduction of the antitoxin intravenously was the rapid formation of the membrane somewhat checked. With this method of administration of the antitoxin a good number of the patients that require intubation need it after the first twenty-four hours. While this eliminates some of the cases, others still remain which require intubation.

In taking cultures directly from the larynx, Thomson and others at this hospital noted that the dyspnea was caused either by loose membrane drawn into the lumen of the larynx on inspiration, or by a thick, mucopurulent material, which the patient seemed unable to cough up. In only a small number of cases was the dyspnea due to the attached membrane above or to an inflammatory stenosis. We noticed that this loose membrane came away frequently on the swab, and the cough following the swabbing cleared the mucus away, so that a child ready for intubation frequently had immediate relief. By this method Thomson reduced the mortality by about 10 per cent.

THE USE OF SUCTION

Tracheobronchial diphtheria, the type of case with a low membrane, does not, however, yield promptly to the applicator treatment. What is considered a further step in the relief of laryngeal diphtheria is the use of suction to draw up the obstructing membrane and mucus.

In an effort to avoid intubation, we have in the past permitted our patients to remain dyspneic for hours, sometimes to the point of exhaustion, struggling for air; we had hoped that they might ultimately expel the membrane, or that the antitoxin might check its rapid formation. At present we employ suction promptly, and as frequently as indicated. The patient is wrapped in a mummy bandage as for intubation, and through a Jackson laryngoscope the membrane and mucus are aspirated by means of a 16 to 18 French silk or metal catheter, which is connected to an aspirating bottle, and in turn connected to an ordinary electric suction pump, capable of producing from 5 to 10 inches of vacuum.

A TYPICAL CASE

The citation of a fairly typical case, one in which, undoubtedly, intubation would have been performed, will illustrate our method of treatment:

A boy, aged 3½ years, admitted, 9 p. m., Oct. 14, 1922, had been ill three days. He appeared acutely ill, and was of poor color. He had a croupy cough with moderate intercostal and epigastric retractions. In addition, he had an extensive membrane on the tonsils which spread onto the posterior pharyngeal wall. Because of difficulty in striking a vein, 15,000 units of antitoxin was given intramuscularly. He had had 10,000 just before admission.

Examination of the larynx revealed membrane on the arytenoids, on the aryepiglottic folds, and extending below the cords.

A silk catheter, as described, was passed through the lumen of the laryngoscope, and the membrane was aspirated from the larynx so that it was fairly well cleared of membrane.

TABLE 2.—THOMSON'S FIGURES OF 1920 COMPARED WITH 1919

	Oct., Nov. and Dec.	
	1919	1920
Total number of cases of laryngeal diphtheria	159	132
Number of cases not treated	84	79
Intubation	75	16
Applicator treatment not intubated	0	37
Total number of deaths	42	20
Motality	26%	15%

There was immediate relief, breathing became easier, retractions disappeared, and the color improved. About six hours later the patient became restless and had attacks of difficult breathing and cyanosis. At 5:30 a. m., eight and one-half hours after admission, the patient was again examined with the laryngoscope. A thin film of membrane had formed, and two pieces of membrane could be seen flapping under the cords with each expiration. Suction was again employed, with relief to the patient.

During the rest of the day the patient was fairly comfortable, with only occasional attacks of dyspnea. That night, however, suction was again indicated; small shreds of membrane and considerable mucus was obtained. The patient was comfortable for the remainder of the night. The temperature, pulse and respiration dropped to normal on the third day, and the patient's color was good. For forty-eight hours longer he was still somewhat croupy, but from then on he made a speedy recovery.

1. Thomson, C. A.: Removal of Diphtheritic Exudate from the Larynx; Employment of an Applicator for the Purpose of Avoiding Intubation, J. A. M. A. **78**: 1198 (April 22) 1922.

COMMENT

In the larynx and the trachea, the pseudomembrane is apparently less intimately attached than in the throat, and its removal does not leave as much and, in fact, very little bleeding surface. In the case cited, removal of the membrane relieved obstruction promptly.

From May until the last part of December, 1922, 106 patients with laryngeal diphtheria were admitted to the croup service at Willard Parker Hospital. There were twenty-one mild cases which required no treatment. Twelve patients received applicator treatment. Intubation was performed in eighteen cases. Nine patients received suction and intubation. There were forty-six cases in which suction was used exclusively. The total number of deaths was fourteen, a mortality of 13 + per cent.

Of the eighteen patients subjected to intubation, eight died with terminal bronchopneumonia. Three of these were moribund on admission; eight have been discharged cured, and two are still in the hospital, and cannot go out without their tubes for any considerable length of time.

Two patients who underwent tracheotomy died.

Of the nine patients treated by suction and intubation, two died, and the rest recovered. Both patients had bronchopneumonia on admission.

The remaining two deaths occurred in the series in which suction was used exclusively. Both these patients had toxic tracheobronchial diphtheria. They were ill about four days before admission; one had, in addition, a pharyngeal involvement.

CONCLUSION

1. Suction is especially advocated for cases in which there is a low membrane, which cannot be reached by either intubation tube or tracheotomy.

2. Laryngoscopic examination with suction in severe cases may be repeated when necessary every six or eight hours. It is interesting to note that many of the cases required but one treatment; in these the membrane was loose in the larynx; intubation was indicated, and the foreign substance was removed by suction.

3. In reference to the cases in which suction and intubation were employed, these being only 16 per cent. of the total number of cases in which suction was employed, it was noted that intubation was necessary because of a persisting edema.

4. Convalescence from laryngeal diphtheria has been shortened by sparing the intubation patients the strain they were formerly subjected to in the desire to avoid intubation.

5. The avoidance of intubation has no doubt diminished the incidence of "chronics," or patients who cannot endure removal of the cannula.

6. By employing visually guided suction, our mortality has been reduced.

The Environmental Influence on Child Development.—The environment of the young child is one of the most important influences in his development. Because of the force of reflex imitation working with this factor of plasticity, the emotional attitudes of those by whom he is surrounded leave their impress on the child before he has lived thirty months. His disposition is being formed; he is becoming irritable, quick-tempered, moody, or sunny and cheerful; just which, however, being determined to a larger extent than people realize by the nature of the adults surrounding him, and this all unconscious to himself, simply as a result of the modifiability of his neurones.—W. P. Lucas. *Hospital Social Service* **7**:13 (Jan.) 1923.

CARBON TETRACHLORID IN THE TREATMENT OF HOOKWORM DISEASE

OBSERVATIONS ON FIFTY THOUSAND CASES *

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In a recent issue of THE JOURNAL [1] reported on the use of carbon tetrachlorid in the treatment of 20,000 cases of hookworm disease in Fiji. My observations were based on experiments conducted up to June 1, 1922. By the end of October, 1922, we had treated an additional 30,000 cases, making 50,000 in all.

The picture presented by the earlier article, while true in the light of experience up to the time of writing, may give the unwarranted impression that carbon tetrachlorid is entirely harmless. I desire, therefore, to submit here the results of our further experience in Fiji with this drug.

We continued the exclusive use of carbon tetrachlorid in the treatment of intestinal parasites with good results till we had treated 42,000 cases. The dosage used was 0.2 c.c. (3 minims) of the drug for each year of age up to 15 years. Adults were given from 3 to 4 c.c. (45 to 60 minims). Up to this time the symptoms reported were few indeed; and "mass treatment" with the drug became so increasingly popular among the natives that we contemplated treating whole populations from a central location in each district instead of continuing our house-to-house method of campaign, which is slow in a country where the homes are so widely scattered. Trial of the new plan in one district showed that it was feasible.

We used, until it was exhausted, a supply of carbon tetrachlorid which showed on analysis a small amount of carbon disulphid, insufficient to do harm. For the last 8,000 cases we used a presumably chemically pure drug. Among these cases there were three deaths. The government chemist, Mr. C. H. Wright, analyzed the new supply of the drug and found it far from chemically pure. A sample of the drug sent to New York was too small for adequate analysis; it showed, however, a fair amount of impurity of unknown nature.

Protocols of the necropsies in the three fatal cases are given below:

FATAL CASE 1.—*History.*—A boy, aged 7, an East Indian of Madrasi parentage, was treated, Tuesday morning, August 22, with 28 minims (1.75 c.c.) of carbon tetrachlorid. Magnesium sulphate was left with his parents with instructions to give it at the end of two hours. On Thursday the mother reported that the boy was ill. Subassistant Surgeon Kalamkar reported that his illness was not severe. On Friday afternoon, the district medical officer was asked to see him, and he kindly attended him until the end, giving him careful symptomatic treatment. The boy refused to enter the hospital till Saturday, and died early Sunday morning. During the interval from Tuesday until his death, he passed nearly fifty ascarids by mouth and by rectum.

Clinical Course (Reported by Dr. D. C. Ogilvie, District Medical Officer, Navua).—When seen on Friday, August 25, at 5 p. m., the boy was semicomatose, occasionally uttering a cry, and pressing his abdomen with his hand as if in pain. He could not be sufficiently aroused to speak. The abdomen was very tympanitic, the liver, slightly enlarged. The heart was beating strongly, about 80 a minute. There were no

* The treatments described in this paper were given during the progress of a campaign for the control of hookworm disease, conducted by the government of Fiji in cooperation with the International Health Board of the Rockefeller Foundation.

1. Lambert, S. M.: Carbon Tetrachlorid in the Treatment of Hookworm Disease: Observations in Twenty Thousand Cases; J. A. M. A. **79**: 2055-2057 (Dec. 16) 1922.

murmurs. The heart sounds were clear. The patient was in a state of semicoma. The pupils were dilated. The knee-jerks were absent. The corneal reflex was present. There was marked trismus. Occasionally there occurred clonic convulsions of the arms and legs lasting for only a short time. The temperature was normal.

Enemas were given and were returned clear. On Friday the patient passed urine naturally. Trismus interfered with the administration of medicine; what was given was for the most part vomited. On Saturday the coma was deeper. The corneal reflexes were absent. Clonic convulsions were more frequent. Trismus was unaltered. The bladder was distended with urine. The temperature was 102.4 F. Treatment on this day was unavailing; the pulse grew weaker in the night, and the boy died at 1 o'clock, Sunday morning.

Necropsy (Reported by Dr. D. C. Ogilvie).—The body, examined at 11 a. m., August 27, ten hours after death, was well nourished, with no external signs of disease. The abdomen was protuberant from the presence of tympanites. The heart muscle was rather pale, but presented no marked pathologic change. Antemortem clots were present in both ventricles. It weighed 4 ounces (113 gm.). The lungs were normal. About 2 drams of fluid was present in each pleural cavity. The liver was enlarged, weighing 25½ ounces (725 gm.). Its appearance was most striking, being of a yellow putty color, with the surface beneath the capsule dotted closely with small petechial hemorrhages. On section, the outline of the lobule was obscured by the degenerative changes. The bile ducts were patent. The kidneys were congested, and showed macroscopic evidence of cloudy swelling. The weight of the left kidney was 2½ ounces (70 gm.); right kidney, 3¼ ounces (92 gm.). The bladder was distended, and contained urine and gas. The urine contained a small amount of albumin; acetone was present, but no sugar. The stomach presented a small area of inflammation, with small submucous hemorrhages on the posterior wall. The intestine was moderately distended with gas. Fifty ascarids were found, most of them alive. The intestine contained no feces, but many worms were seen full of ingested feces. Twenty *Trichuris trichiura* worms were also discovered, but no hookworms. In the second part of the duodenum there was a coiled mass of thirteen ascarids, distending the intestine but not packed so tightly as to cause obstruction. Nothing abnormal was found in the large intestine.

The diagnosis was death from carbon tetrachlorid poisoning.

Dr. S. T. Darling of Baltimore examined specimens of the liver and kidney from this case. The liver showed a very severe necrosis of the central and intermediate zones of the lobules. Perhaps from one half to two thirds of the liver substance had been destroyed. There was an associated cellular proliferative change around the bile ducts. The kidneys appeared normal.

Immediately after this death we had from the same area, within a period of three weeks, five patients who became ill in the same manner. I saw two of them. Both were seriously ill. To the first, a small child of 3 who was unable to stand and was carried to the laboratory in her father's arms, I gave 6 drops of oil of chenopodium. When she was brought in one could see the intestines writhe beneath the thin abdominal walls. She had passed a number of ascarids, estimated by the parents at thirty or forty, and I believed that she still suffered from these. The next day she was all right, after passing about sixty more worms. The four other persons who developed serious symptoms were immediately taken to the hospital and given santonin. They passed ascarids numbering from nearly 100 to more than 150. When they were relieved of these, their symptoms disappeared.

FATAL CASE 2.—*History.*—An Indian boy, aged 5 years, whose parents were Madrasi born, until three weeks previous to treatment lived at Naitata, Navua. He was treated September 27, with 15 minims (1 c.c.) of carbon tetrachlorid. Magnesium sulphate was said to have been given two hours later. The patient became sick on the 28th. He was taken to the Colonial Hospital on the 29th, and died three hours after admission.

Necropsy (reported by Dr. Basil M. Wilson, Resident Medical Officer, Suva Colonial Hospital).—The body was well nourished. The liver showed many small petechial hemorrhages under its capsule. Otherwise the organ appeared normal and healthy. The other organs appeared healthy. A portion of the liver and one kidney were removed for microscopic examination. More than 100 roundworms (*Ascaris lumbricoides*) were found in the gastro-intestinal tract.

FATAL CASE 3.—At the end of October the third death occurred. The postmortem examination gave the same findings in the liver that were shown in the other two cases.

Specimens of liver and kidney from Cases 2 and 3 will be available for diagnosis.

A striking feature in connection with these deaths in a comparatively small community is the fact that, although they were given wide publicity, they had no hindering effect on our campaign. No one refused to take the treatment because of the fatalities, and in one district, where examination showed so light an infection that we did not want to carry on mass treatment and had instead established a dispensary, we were overwhelmed the first day by the rush of applicants, and in a few days treated nearly the whole population.

MODIFICATION OF CARBON TETRACHLORID TREATMENT

After our experience with the heavy *Ascaris* infection in Navua, it was thought wise to modify the treatment for young children by adding to the carbon tetrachlorid a vermifuge more effective for *Ascaris*. Oil of chenopodium is considered such a drug. It was added in the proportion of one part of chenopodium to eleven parts of carbon tetrachlorid. The dose of the mixture remained at 3 minims (0.2 c.c.) for each year of age. This meant 2¾ minims of tetrachlorid and ¼ minim of chenopodium for each year. We have now treated with this dosage several hundred persons, many of whom have had fairly severe *Ascaris* infections. The worms have all been removed dead. The mixture is not disagreeable to take, and children have not objected to it. The oil is held in a perfect solution in the tetrachlorid. The drugs may quite properly be given in the same proportions to adults in the accepted dosage of from 50 to 60 minims (3 to 4 c.c.).

TREATMENT OF PREGNANT WOMEN

Pregnancy is a condition in which the dire effects of hookworm disease are dramatized most vividly. This aspect of the infection is of first importance to district medical officers in Fiji, for those with a large Indian clientèle, it would seem, have among their obstetric cases a number of deaths each year of mother or child, or both, as a result of hookworm disease.

Oil of chenopodium is said to be contraindicated in the case of pregnant women, and these form an appreciable portion of a population whose women begin to marry at the age of 11 or 12 and have large families. In the first months of our campaign, these women made a large addition to our list of persons excluded from treatment for medical reasons, and consequently they constituted an extensive source of reinfection for those cured by our treatment. In June, 1922, we began treating all women with carbon tetrachlorid, and up to October we had had no case of abortion, though some hundreds of pregnant women had been treated.

CONCLUSIONS

The present paper and that of December 16, 1922, present rather full evidence drawn from 50,000 treatments with carbon tetrachlorid.

1. Carbon tetrachlorid has shown itself to be the best vermifuge for the treatment of hookworm disease in a country where *Necator americanus* predominates.

2. The drug is palatable, requires no preparation of the patient, and, when pure, is apparently not toxic—all of which features are of advantage in a popular campaign.

3. Forty-two thousand persons were treated without morbidity or mortality from the drug. Among 8,000 cases subsequently treated with supposedly pure carbon tetrachlorid, three fatalities occurred. Chemical examinations, however, disclosed that this particular lot of carbon tetrachlorid was far from pure.

4. We emphasize the necessity for a pure supply of this drug.

5. It is possible that a dosage of 3 minims (0.2 c.c.) for each year of age with an adult dose of from 45 to 60 minims (3 to 4 c.c.) is larger than is desirable.

6. Where there is a heavy infection with *Ascaris*, the results are improved by the addition of oil of chenopodium.

TREATMENT OF THE MENINGEAL FORM OF ACUTE ENCEPHALITIS WITH ANTIMENINGOCOCCIC SERUM

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Apropos of the recent report by Helmholz and Rosenow [1] of three cases of acute encephalitis treated with specific serum, it is of interest to record the striking effect of nonspecific serum in a case of acute encephalitis of the meningeal form.

REPORT OF CASE

A schoolboy, aged 15, was a good scholar, but always nervous and inclined to be "twitchy." He was well until the night of Nov. 28, 1921, when there was slight fever and digestive disturbance, which was not taken seriously. No physician was called until the morning of Nov. 30, 1921, when he was observed by Dr. F. R. Lyman of Hastings, N. Y., who suspected meningitis. At 6 p. m. on the same day, when I saw him, the temperature was 102, the pulse 84, and the respiration 18. He was clear mentally, seemed cheerful and was fairly comfortable. There had been repeated vomiting for twenty-four hours, but no diarrhea. The patient was somewhat excitable. The eyes were suffused, and there was a slight lag of the left eyeball on external rotation. The pupils were equal, but rather small. The neck was not stiff, but the head came forward in a jerky fashion. The throat and ears showed nothing significant. Neither Kernig nor Babinski sign was found. The knee jerks were strongly exaggerated. The leukocytes numbered 8,020; the polymorphonuclears were 87 per cent. No diagnosis was made, but it was apparent that a serious infection was developing. On the afternoon of December 1, the patient was seen by Dr. Evan Evans, who found a well developed picture of meningeal irritation. The boy had vomited and was delirious all night, the temperature having reached 103. At 7 p. m. the boy was almost comatose, and could be roused only with difficulty and then presented a marked delirium. The neck was very rigid. Kernig's sign was positive on both sides. There was a positive Babinski sign on the right. The left abdominal reflex was absent, the right was present. The knee jerks were present and not exaggerated. There was marked hyperesthesia. The pupils were small. The eyeballs were so rolled up beneath the lids that the character of the ocular movements could not be determined. The pulse rate was 80 and regular. The respiration was very irregular and jerky, with periods of rapid and shallow breathing, alternating with slow and rather irregular respiration which suggested profound interference with the respiratory center. The lumbar puncture gave 45 c.c. of water clear fluid under marked increase of pressure. There were 85 cells per cubic millimeter, 83 per cent. of them mononuclear in type. Globulin was increased to one plus. Subsequent culture was negative, and the smear showed no organisms.

In view of the rapid development of the meningeal picture, with obvious involvement of the respiratory center, and the very serious general condition of the patient, it was decided to give energetic treatment with antimeningococcic serum. It was felt that without some active measures the patient would die, and that attempts to secure a so-called nonspecific serum effect were justified. Accordingly, 25 c.c. of antimeningococcic serum was at once injected intraspinally. One hour later, 50 c.c. of antimeningococcic serum was injected intravenously. The usual precautions to determine sensitiveness had previously been taken. The patient passed a stormy night and exhibited an irregular and exaggerated, Biot type of respiration with moderate cyanosis. At 6 a. m., December 2, 60 c.c. of serum was given intravenously. At 8 a. m., lumbar puncture was done; 30 c.c. of somewhat cloudy fluid was withdrawn, and 20 c.c. of serum injected into the subarachnoid space. On this date the patient developed weakness of the left external rectus muscle and was apparently unable to swallow. He remained semicomatose, lost control of his sphincters, and was in grave condition. At 6 p. m., 40 c.c. of spinal fluid was withdrawn. This contained 980 cells. No serum was given. December 3, at noon, after a less stormy night, the maximum temperature was 104, and the pulse was 84. The patient had resumed the ability to swallow, and obeyed simple orders, but was profoundly weak and somnolent. There were myoclonic twitchings. Forty cubic centimeters of cloudy fluid was withdrawn, but no serum was given. December 4, the patient had improved, and began to speak in monosyllables; there was less twitching and less meningeal irritation. From this time rapid improvement began. The temperature became normal, December 7. There was complete paralysis of the left external rectus, moderate left ptosis, and some weakness of the left side of the face. Otherwise there were no residual manifestations. The patient had a very severe serum reaction, but, except for this, made an uncomplicated recovery. The left external rectus remained weak for several months, but eventually was restored to normal.

COMMENT

The somnolence, the ocular and facial palsy, the myoclonia, the clear cerebrospinal fluid with small increase in cells and a high percentage of mononuclears, the absence of organisms on repeated smear and culture, the season and the fact of the not infrequent prevalence of the disease in the region seemed to classify this case definitely as an encephalitis.

It was apparent to observers that the effect of antimeningococcic serum in this case of acute encephalitis of the meningeal type was striking and beneficial. From the time of its administration, symptoms ceased to advance, and within thirty-six hours, the patient, who had not been expected to survive, seemed out of danger.

This case is not recorded in an effort to disparage attempts to develop a specific serum for the treatment of encephalitis. It illustrates, however, the point made by Helmholz and Rosenow concerning the care with which therapeutic results must be weighed, and the importance and probable value of nonspecific serum effects in infections of the character described.

49 East Fifty-Third Street.

1. Helmholz, H. F., and Rosenow, E. C.: Three Cases of Acute Encephalitis Treated with Specific Serum, J. A. M. A. 79: 2068 (Dec. 16) 1922.

A SIMPLE AND RAPID TEST FOR ALBUMIN AND OTHER URINARY PROTEINS *

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While it is true that albuminuria does not always denote renal disease, the inescapable fact remains that albuminuria is almost always the earliest sign of nephritis; and it is generally discoverable months or even years before the symptomatology, the blood chemistry or the most sensitive of renal function tests become diagnostic.[1] Neither clinical nor insurance medicine has as yet taken as thorough cognizance of the importance of minimal amounts of albumin or of the relation of dilution of the specimen to amount of albumin as statistics justify, and chiefly because the albumin tests in common use do not enable one to make precise distinctions between truly persistent and genuinely intermittent albuminurias.

VALUE OF VARIOUS TESTS

As a matter of technical practice, we are accustomed to the use of criteria which are not truthfully informative. For instance, if one uses Heller's test as the criterion, as many do, one is likely to miss altogether or to appraise as negligible the fainter reactions found in more dilute specimens, i. e., specific gravities running lower than about 1.016, when the same amount of albumin in proportion to the concentration of the specimen would have appeared distinctly unfavorable had the specific gravity of the specimen been 1.028. Observations of nephritics or a few dilution experiments will demonstrate this and teach us that, in our daily work, we are employing standards which lead us to classify as intermittent cases of albuminuria which are as a matter of fact persistent, and only apparently intermittent.

Much has been written about what Cammidge [2] has aptly called the "pitfalls" of Heller's and the heat test; and it is well known that the textbooks teach us not to rely on any one albumin test but to check up the one which may have been employed with one or two other tests. Thus, Heller's, and the heat test in some one of its modifications, have come to be preferred, and they are performed far more frequently than other tests, although strangely enough they have some of the same "pitfalls."

Both Heller's and the heat test serve their purpose beautifully if used understandingly and in a purely qualitative way. They fail us only when we try to stretch them, as it were, to get quantitative results; the truth of the matter being that, for want of better methods, we have been obliged to employ these tests as makeshifts, and we are so accustomed to them that the potential value of more accurate methods is not always fully appreciated. How gross and illusory are the deductions which we have been drawing from the reactions exhibited by the more commonly used albumin tests, a few simple experiments with checks, if carefully made, will show; and, under the impression that a closer and more truthful means of dealing with albuminuria would prove to be advantageous, our experimental work was undertaken.

In 1889, Roche, layering with a 20 per cent. solution, proposed the use of sulphosalicylic acid as a precipitant for albumin in urine. Since then, the value of this reagent has impressed numerous other workers; primarily, MacWilliam,[3] who showed its differential value, and recently, Sanford,[4] who gives it the preference as a qualitative test for albumin in urine. Kober [5] has recommended it as a protein precipitant in connection with nephelometry, and Folin and Denis,[6] in connection with turbidimetry.

The physicochemical state of proteins in milk, urine, etc., has been the subject of much study, and the work on hydrogen ion concentration initiated by Sörenson has led to the investigation of protein behavior from this aspect. Pauli, Michaelis and others have contributed information regarding the flocculation of protein materials, and the work of Hanzlik [7] is of special interest with reference to the precipitation of serum albumin.

THE AUTHOR'S TEST

Based on these and our own [8] experiences, by a process of experimental exclusion a test has been developed that has been thoroughly tried and found exceedingly satisfactory for both qualitative and quantitative testing for albumin in urine,[9] with a reagent consisting of a solution of 5 per cent. sulphosalicylic acid and 20 per cent. sodium sulphate. In fact, the test appears to be so reliable that checking up with other tests is rarely, if ever, necessary.

The reagent is highly acid, approximately equivalent to tenth normal hydrochloric acid, and so thoroughly loaded with salt that, when added to an equal volume of urine, a mixture is obtained that is quite uniform in specific gravity, hydrogen ion concentration and salt content, irrespective of the physicochemical constants peculiar to the particular urine tested.

RESULTS

Tests were made on more than 60,000 urines in the Prudential and other laboratories, with these results: Urines loaded to great excess with uric acid, urates, phosphates, oxalates, urea, creatinin and other urinary constituents have invariably failed to produce any cloudiness at all with the reagent. A number of urines containing resinous and emulsifying substances which gave false Heller's and heat reactions did not develop

* From the Prudential Laboratory.

1. In a private communication, Dr. William G. Lyle, director of the Pathological Laboratory, Roosevelt Hospital, and Harriman Research Laboratory, informs me that, in an unpublished statistical study of 2,500 records of patients in whom, in addition to routine urinalysis, blood chemistry, renal function, diet and dye tests were made, the data disclosed albuminuria as the earliest sign of renal disease.

2. Cammidge, P. S.: Pitfalls in the Examination of Urine, Polyclinic **9**: 73-76 (June) 1905.

3. MacWilliam, J. A.: A New Test for Albumin and Other Proteids, Brit. M. J. **1**: 837-840 (April 18) 1891; On the Use of Salicyl-Sulphonic as a Test for Albumoses and Peptones, ibid. **1**: 115 (Jan. 16) 1892.

4. Sanford, A. H.; Connor, H. M.; Magath, T. B., and Heck, B. S.: The Significance of Slight Albuminuria, Collected Papers of the Mayo Clinic **13**: 1921, reprinted from the Proceedings of the American Life Convention, pp. 54-70, 1921.

5. Kober, P. A.: Technical Applications of Nephelometry, J. Indust. & Engin. Chem. **10**: 556 (July) 1918; Nephelometry in the Study of Proteoses, J. Am. Chem. Soc. **35**: 299 (March) 1913.

6. Folin, Otto, and Denis, Willie: The Quantitative Determination of Albumin in Urine, J. Biol. Chem. **18**: 273, 1914.

7. Hanzlik, P. J.: Precipitation of Serum Albumin and Glutin by Alkaloidal Reagents, J. Biol. Chem. **20**: 13, 1915.

8. Exton, W. G.: Rapid Tests for Albumin, Proc. A. Life Ins. M. Directors, 1921, p. 188.

9. A liter of the reagent is made by dissolving 200 gm. of sodium sulphate (crystals) in from 700 to 800 c.c. of distilled water. After cooling down to about 35 C., 50 gm. of sulphosalicylic acid is dissolved by stirring and without further heating, and enough water is then added to make 1 liter. The reagent is not sensitive to light, and keeps indefinitely. The test is performed by mixing equal parts of urine and reagent, and warming. Even the warmth of a match suffices. Boiling does not spoil the test, but is unnecessary. Albumin-free urines so treated give a perfectly clear, transparent mixture; albuminous urines, a clouding with the degree of turbidity directly proportionate to the concentration of albumin.

perceptible cloudiness with the test, and the addition of oily, gummy and resinous substances to normal urines has likewise given consistently negative results. Numerous urines which gave misleading reactions with Heller's or the heat test because of substances which had been added to preserve the specimens, usually thymol or excessive amounts of formaldehyd, were found to be free of interference from such substances if the mixture was examined when warm. Thus, if read while the mixture is warm, the test appears to show serum albumin and globulin, exclusively.

When the mixture is cold, other proteins occasion opalescence or cloudiness, which clears rapidly on warming, the only exception being Bence-Jones protein, which gives a precipitate so characteristic that independent observers have used the identical expression to describe it. It looks exactly like "curdled milk," and does not clear up unless boiled.[10]

Secondary proteoses and protamins from spermatozoa fall out of solution and cause opalescence when the test cools. The microscope will differentiate these, and no confusion arises because the albumin precipitate remains unchanged whether the mixture is warm, boiled or cold, thus making the test practically specific for serum albumin and globulins.

Experiments with nucleoproteins extracted from yeast and thymus gland have proved negative; but, as these are not identical with urinary nucleoprotein, such experiments are merely suggestive. Of the last 60,000 urines examined in the Prudential laboratory, none contained enough nucleoprotein to be evidenced by the new test, although Heller's test occasionally suggested its presence; and the material of several large clinical institutions, during the last year, has not furnished a single specimen of urine containing a sizable amount of nucleoprotein. Evidently such urines are rarer than Bence-Jones specimens. The sensitivity of the test for nucleoproteins has, therefore, not been definitely established, and it is advised that a test for nucleoprotein be made separately by treating the diluted urine with acetic acid or Ott's reagent.

Urines that cannot be cleared may be examined for albumin by comparing the test as performed in the regular way with a control made by diluting the cloudy urine with an equal volume of clear water. The difference in cloudiness between test and control represents the amount of albumin in the specimen.

The most valuable feature of the test is its characteristic of inducing cloudiness directly proportionate to the concentration of albumin in the specimen, the difficulties in this respect encountered by Marshall, Banks and Graves [11] having been overcome, as already pointed out, by safely buffering against variations in salt content and hydrogen ion concentration through loading the reagent with salt and making it so acid that, when diluted with an equal volume of urine, the conditions necessary to constant uniformity of flocculation are attained, which makes a test truly quantitative. Dilution experiments with albuminous urines and a wide variety of normal urines to which given amounts of serum albumin were added have shown very satisfactory quantitative results with optical methods.

10. Through the kindness of Dr. H. M. Mosenthal of New York, and Dr. A. H. Sanford of the Mayo Clinic, Bence-Jones specimens were received, and we were favored with their observations on the nature of the flocculation with our reagent.

11. Marshall, J. T. W.; Banks, H. W., and Graves, S. S.: A Study of Proteins in Urine, Arch. Int. Med. **18**: 250-262 (Aug.) 1916.

SUMMARY

This differential test for proteins in urine, with a single clear, watery reagent, keeps indefinitely and has these characteristics:

1. It is an exceedingly simple, rapid and accurate differential test.
2. It does not react with the bases or salts found in urine.
3. It does not react with resinous and similar foreign substances.
4. It is free of the inaccuracies of layering.
5. It does not require a fixed time for observation.
6. It gives a definite prompt and reproducible endpoint.
7. It shows albumin plainly in specimens that cannot be cleared.
8. It is a shade less sensitive than the heat salt and acetic acid test.
9. It is specific for serum albumin-globulins, Bence-Jones protein and secondary proteoses.
10. It gives uniformly truthful quantitative clouds or precipitates adapted for optical measurement.

ACTION OF STRONGER SOLUTIONS OF MERCUROCHROME IN EARLY GONORRHEAL INFECTIONS

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The advancement in the treatment of gonorrhea has not kept pace with that of many diseases. It is generally agreed that efforts to improve on the more or less standard forms of treatment have been relatively unavailing. The introduction of the colloidal silver preparations marked the biggest advancement in recent years and, still more recently, the development of the mercury derivatives, as carried on by Young and his associates,[1] offered hope for an immediate sterilizing injection. As in the case of arsphenamin, the chemicals did not effect a cure in a single injection, though Frontz [2] has about eight well developed cases in which the process was absorbed after two or three injections of 1:1,000 acriflavine.

In spite of adverse criticism, mercurochrome-220 soluble possesses some commendable qualifications. It is a solution and not a colloidal suspension, and therefore penetrates animal tissues better. It has great germicidal value, a solution of 1:1,000 killing *Bacillus coli* and staphylococci in urine in one minute. The toxicity is negligible in ordinary dilutions, and there is no precipitate in urine. Its irritating properties would seem to be the only unsolved problem in its use.

It has been shown that "in thirty-eight hours after innoculation the gonococcus has only begun to penetrate the epithelial tissues," [3] but that the penetration is a progressive one and extends to the subepithelial tissues. In the original experiments on mercurochrome it was shown that the urethral surface cells were most intensely stained, but that there was a diminishing amount of the stain toward the submucosa. The failure to get the germicide in sufficient concentration into the deeper epithelial layers and the glandular structures,

1. Young, H. H.; White, E. C., and Swartz, E. O.: A New Germicide for Use in the Genito-Urinary Tract: "Mercurochrome-220," J. A. M. A. **73**: 1483 (Nov. 15) 1919.
2. Frontz, W. A.: Personal communication to the author, Oct. 26, 1922.
3. Fenger, quoted by Keyes: Modern Urology **1**: 59.

is, of course, the reason for failure to accomplish a quick cure.

It seemed logical to me, therefore, that further study of the action of the germicides might be useful. After observing the action of the weaker solutions of mercurochrome-220 soluble in the urethra, a 2 per cent., then 3, then 4, 5 and even 6 per cent. solutions were tried. More favorable results followed the use of the stronger solutions. There was evidence that the use of the dye alone did not give as uniformly good results as when it was used alternately with one of the colloidal silver suspensions—argyrol or its equivalent. Those patients applying for treatment early appeared to do better, and I began to follow a definite method, as the cooperation of the patients, all private, was good.

In those cases in which the patients applied for treatment within twenty-four hours after the appearance of a discharge, a microscopic examination was made and repeated every few days. The three glass test of the urines was made at each visit, and it was ascertained whether the previous treatment had been extremely irritating, and if any untoward symptoms were developing. Each morning a small quantity of 5 per cent. mercurochrome-220 soluble was slowly injected with a blunt syringe, and was retained from three to five minutes. When considerable burning was produced, a prescription calling for oil of santal, 10 minims (0.6 c.c.), three times a day, after eating, was given the patient. On his return in the evening, a 25 per cent. argyrol solution was substituted for the mercurochrome. This was a daily routine, and was varied only in the hyperactive cases or in those prolonged and complicated.

I have been able to follow forty-six cases until an apparent cure was effected. They show several points of interest. Thirty-one patients, or 67 per cent., had had previous attacks. One had had as many as seven, the last one occurring three years ago. Two years ago he was referred to me for a slight morning drop, and on removal of an anterior stricture the trouble cleared. He had no evidence of other remaining infection. One had a history of "at least ten" attacks, the last one occurring while in the service three years before. He has never had evidence of existing posterior involvement since coming under my observation, and there is no evidence of damage resulting from the former attacks in the anterior urethra. It is hardly likely that the attacks of these men were recurrences.

In age, the youngest was 19; the oldest two were 51 and 54. The more severe symptoms were complained of by the younger men, though the fact that they had had few or no previous attacks, and were exposed to the more virulent organisms in persons without previous attacks, probably accounts for the condition.

Where there was considerable active discharge, the mercurochrome injection produced considerable burning; but this was complained of only at the first visit. This burning rarely lasted longer than twenty minutes, and never was more severe than that accompanying the act of urination which one often sees during a hyperactive stage. In this series there are only five cases in which the 5 per cent. mercurochrome-220 soluble was not used at first. One patient (Case 33) came in complaining of excruciating pain on movement of the penis. Examination disclosed considerable redness and edema of the whole organ, and a slight watery discharge negative for gonococcus. The history revealed that the injury was not a result of the urethritis, but that the contrary was true. A positive smear developed in thirty-six hours, however, and no mercurochrome could be used for a period of one week.

A disappearance of purulent discharge was effected by the third day in 75 per cent. of these cases. As long as there was macroscopic pus there were usually gonococci.

In ten, or 21.7 per cent., of the cases, posterior symptoms developed, the severity of which could not be found to differ from the usual incidences of such.

In only one case was there a folliculitis reaching any unusual proportions. Following a folliculitis two years previous, a hardened nodule, 3 mm. in diameter, had persisted, and became the seat of a new enlargement which required external incision. The lesion healed with no appreciable scar or nodule. In no case were there symptoms of cowperitis. Arthritis occurred in Case 33, in which the penis had been traumatized. The patient's right wrist became involved within ten days, but recovered under the usual care, and no further joints were involved. The relation of the trauma to the bacteremia is interesting.

Several men presented clear urines and no discharge after three or four days, but the injections were carried on a few days afterward to take care of any possible source of further trouble. Often the urines were examined, but no treatment was given after five or six days. One patient did not return after the first injection for a year, when he came in with a new infection and reported that "one injection had cured" him. The duration of trouble in the series is given in the accompanying table.

DURATION OF TROUBLE

Cases Number	Per Cent.	Duration
32	69.8	7 days
2	4	10 days
3	6.5	2 weeks
3	6.5	2 weeks
2	4	3 weeks
5	10	6 weeks
1	2	15 weeks

Approximately 70 per cent. of the cases reached an apparent cure in one week, and in ten days 75 per cent. were cured.

Freedom from symptoms, both objective and subjective, constituted a "cure." Fully one half of the patients have been dismissed more than a year. There have been no recurrences.

COMMENT

As was stated in the beginning, the study made here was in an effort to get greater efficiency from drugs theoretically capable of producing better results. The increased strength was used to get killing concentrations after penetration. Alternating the colloid with the solution was done as it seemed to produce the best results, though I am not aware of any synergistic properties that either chemical has. It is possible that even a weaker solution of mercurochrome-220 soluble, acriflavine, or similar antiseptics would have been adequate substitutes for the 25 per cent. argyrol. There has been no attempt to offer new records for quick cures. So far as the method of treatment is out of the ordinary, mention of it seemed justifiable.

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EPIDEMIC JAUNDICE IN NEW YORK STATE, 1921–1922

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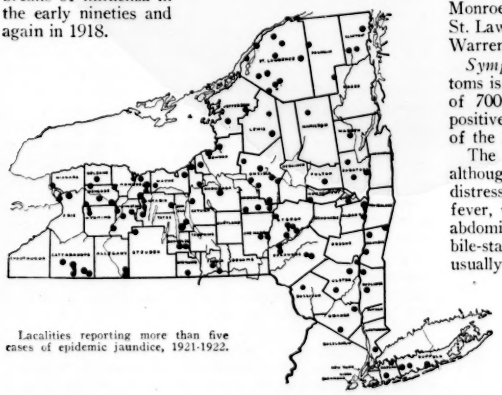
During the winter of 1921-1922, New York State was visited over a very wide area by so-called infectious or epidemic jaundice. This disease was present at the same time in other parts of the country. Previous to the epidemic, localized outbreaks had been studied by the New York State Department of Health in the village of Philadelphia, Jefferson County, in the winter of 1915-1916; at Berkshire, Tioga County, in March, 1920, and in Chenango County during February, 1921. The disease as it appeared at Cooperstown, N. Y., during the recent state-wide epidemic, has already been described.[1]

It may be noted that during 1896 there occurred at Albany a well-marked outbreak of epidemic jaundice. At Hudson, N. Y., a similar epidemic occurred a few years previously. Reports from practitioners indicate that at certain localities in Delaware County, Allegany County and especially in St. Lawrence County repeated outbreaks of epidemic jaundice have occurred at varying intervals during the last thirty years. Up to 100 cases appear in some of these reports, and nowhere were uncomplicated cases recorded which terminated fatally. Multiple cases in households and in schools were frequently found in these earlier outbreaks. This history is interesting as having a possible relation to the outbreaks of influenza in the early nineties and again in 1918.



Localities reporting more than five cases of epidemic jaundice, 1921-1922.

The accompanying map shows localities in New York State which reported more than five cases of jaundice during the recent epidemic. Nearly all of these records are for the period between September, 1921, and March, 1922, the interval when the outbreak was state-wide in its distribution. For several of the foci indicated on the map more than a hundred cases were recorded, but the average number of cases for each focus was not more than thirty.

1. Williams, Huntington: Epidemic Jaundice: Report of a Local Outbreak at Cooperstown, N. Y., During a State-Wide Epidemic, New York State J. Med. **22**: 150 (April) 1922.

ANALYSIS OF SEVEN HUNDRED CASES

A detailed study of 700 cases of epidemic jaundice was made by the state sanitary supervisors in accordance with plans drawn by Dr. Edward S. Godfrey, Jr., director of the division of communicable diseases of the state health department. These cases represent approximately half the known cases that occurred during the epidemic in New York State (excluding New York City), and in addition there were many cases that were so mild that they were not seen by a physician or recorded in any way. The 700 cases here analyzed were reported from the twenty-five counties of Albany, Broome, Columbia, Delaware, Erie, Franklin, Genesee, Jefferson, Livingston, Madison, Monroe, Niagara, Ontario, Orange, Oswego, Otsego, St. Lawrence, Seneca, Steuben, Sullivan, Tioga, Ulster, Warren, Wayne and Wyoming.

TABLE 1.—OCCURRENCE OF SYMPTOMS

Symptom	Cases Positive		Cases Negative		Not Recorded	
	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.
Jaundice	647	92.4	11	1.6	42	6.0
Anorexia	574	82.0	68	9.7	58	8.3
Nausea	619	88.4	46	6.6	35	5.0
Vomiting	503	71.9	169	24.1	28	4.0
Headache	488	69.7	139	19.9	73	10.4
Constipation	463	66.1	110	15.7	127	18.2
Prostration	211	30.1	81	11.6	408	58.3
Clay-colored stools	558	79.7	46	6.6	96	13.7
Bile-stained urine	617	88.2	10	1.4	73	10.4
Abdominal pain	417	59.6	211	30.1	72	10.3
Fever	524	74.9	105	15.0	71	10.1
Chills	334	47.7	293	41.9	73	10.4
Limb pains	235	33.6	297	42.4	168	24.0
Diarrhea	106	15.2	442	63.1	152	21.7
Conjunctival congest.	66	9.4	103	14.7	531	75.9
Epistaxis	61	8.7	525	75.0	114	16.3
Herpes	28	4.0	536	76.6	136	19.4
Hiccup	58	14.0	478	68.3	124	17.7
Unusual prevalence of rats on premises	167	23.9	262	37.4	271	38.7

Symptomatology.—Each of eighteen common symptoms is recorded in Table 1 for every case in the series of 700 that were studied. Symptoms are reported positive, negative or not recorded, and the percentage of the 700 cases in each group is given.

The disease appeared to be mild in character, although the gastro-intestinal symptoms were often distressing. In typical cases there was a slight initial fever, with several days of anorexia, nausea, vomiting, abdominal pain, constipation, clay-colored stools and bile-stained urine. After this period, which lasted usually from three days to a week, jaundice appeared and the abdominal symptoms decreased markedly in severity. The jaundice persisted for varying periods from several days to several weeks. It was sometimes observed only in the eyes, but in other cases it was widespread over the body and of a deep shade. Convalescence was almost invariably slow, and was marked by prostration, very frequently of a severe type. In rare cases when seen in the prejaundice stage, there was noticed a faint rash on the arms and upper chest, together with a superficial tenderness and roughening of the skin in these parts. As a rule, however, no record was made of this symptom. The physician frequently considered the disease intestinal grippe, perhaps because the jaundice epidemic came fairly soon after the pandemic of influenza. In this connection, it is of interest to note that there was a moderate leukocytosis present in half of the cases at Cooperstown, which were studied early in the disease, and in no case was there reported a leukopenia.

Five Atypical Cases.—Throughout the epidemic there occurred only five known fatal cases, in each of which there were complications. Two of these were in infants born to mothers ill with jaundice at the time of delivery. One infant was born jaundiced, and lived only thirty-six hours. The other was born with clear skin, but on the second day after birth developed a yellow tint over the body. On the third day the baby began to bleed profusely from the bowel. This condition continued at intervals until the death of the child on the fourth day. The third fatal case was that of a girl, aged 5 years, who had very marked jaundice for two weeks, with constipation and clay-colored stools. The child had an irregular temperature during this time, with marked prostration, similar to that of influenza. There were signs of encephalitis, and the chemical test for bile was positive in the spinal fluid. The fluid was of clear color, and gave a low cell count. Another fatal case was that of a girl, aged 6 years, whose jaundice was complicated by existing renal disease due to scarlet fever contracted a year previously. In this case the attending physician attributed death to acute nephritis. The remaining fatal case was that of a boy, aged 14 years. He developed jaundice, which cleared up after a week's duration. Two weeks after this the jaundice returned and became very marked. There developed typical symptoms of meningitis at this time, and the child died four days after the second appearance of the jaundice.

TABLE 2.—SEX DISTRIBUTION

	Number	Per Cent.
Males	353	50.4
Females	345	49.3
Not recorded	2	0.3

TABLE 3.—AGE DISTRIBUTION

	Number	Per Cent.
From 0 to 4 years	46	6.6
5 to 14 years	362	51.7
15 to 24 years	127	18.2
25 to 34 years	50	7.1
35 to 44 years	59	8.4
45 to 54 years	23	3.3
55 to 64 years	20	2.9
65 to 74 years	3	0.4
75 to 84 years	2	0.3
85 to 94 years	1	0.1
Age not recorded	7	1.0
Total	700	100.0

Epidemiology.—It is of interest to note that (1) of the 700 cases studied, the sex distribution is almost exactly equal (50.4 per cent. males); (2) a little more than half (51.7 per cent.) of the cases were in the school age group, from 5 to 14 years, and outbreaks often centered in a school; (3) in more than half the cases, the dates of onset were during the months of November and December, 1921, and (4) multiple cases in a household or a school were very common.

Dates of Onset.—Of the 700 cases, the dates of onset in 672 cases were between Sept. 1, 1921, and March 2, 1922, and are recorded in Table 4. In addition, the onset in seventeen cases occurred between March 1 and Aug. 31, 1921, and in eleven cases there was no recorded date of onset.

Multiple Cases in Household or School.—Of the cases, 421, or 60 per cent., were multiple, that is, more than one case occurred in a household. The maximum number in a home was eight. In 83 instances, there were 2 cases in a household; in 33, 3; in 20, 4; in 7, 5; in 3, 6; in 1 instance, 7; and in 2 instances, 8.

In one instance (at Cooperstown, N. Y.), fourteen children in a one-room school of thirty-six pupils developed the disease, over a period of two and one-half months. In another school, all the pupils but two developed the disease. In a third school, the teacher and also the physician gave the information that nearly every child in the room had had an attack of jaundice, and in a fourth school district in St. Lawrence County, every child but one had jaundice, and in connection with the school outbreak other children in the homes had secondary cases of the same disease. This apparent susceptibility to infectious jaundice among school-children was also noted in an outbreak in St. Lawrence County which occurred about twenty-five years ago. In this connection, attention is again called to the age distribution of the 700 cases here reported.

LABORATORY INVESTIGATIONS

Special investigations were made by the division of laboratories and research of the state health department, with the hope of discovering the specific etiologic agent in this disease. Blood, urine, feces and throat cultures from patients with the epidemic disease were examined, and in no case were positive results obtained in isolating *Leptospira icterohaemorrhagiae* [2] or any other organism of significance.

TABLE 4.—DATES OF ONSET

Investigator	Counties	1921 Sept.	Oct.	Nov.	Dec.	1922 Jan.	Feb.	March	Total
Dr. Edward Clark	Erie, Niagara, Wyoming, Genesee	0	5	18	47	41	6	0	117
Dr. B. R. Wakeman	Livingston, Monroe, Ontario	0	6	58	32	18	0	0	114
Dr. S. W. Sayer	St. Lawrence, Jefferson	9	24	41	28	2	0	0	104
Dr. Huntington Williams	Albany, Columbia	1	4	13	19	25	14	1	77
Dr. W. L. Munson	Franklin, Warren	1	7	12	30	8	0	0	58
Dr. H. J. Ball	Madison	0	4	11	32	3	1	0	51
Dr. C. R. Hervey	Oswego, Wayne	3	2	14	24	1	0	0	44
Dr. F. W. Laidlaw	Delaware, Sullivan, Ulster, Orange	0	4	13	19	6	0	0	42
Dr. F. W. Sears	Seneca	1	6	6	3	9	0	0	25
Dr. Huntington Williams	Otsego (Cooperstown)	0	6	6	6	8	0	0	26
Dr. J. A. Conway	Steuben, Tioga, Broome	4	2	3	3	1	1	0	14
Total		19	70	195	243	122	22	1	672
Per Cent.		2.8	10.4	29.0	36.2	18.2	3.3	0.1	100

COMMENT

The causative factor of the epidemic here described has not been determined. There is no evidence that rat-borne or other contamination of human food supplies was of etiologic importance. The relationship is uncertain between this state-wide outbreak and instances

2. Noguchi, Hideyo: Morphological Characteristics and Nomenclature of Leptospira (Spirochaeta) Icterohaemorrhagiae (Inada and Ido), J. Exper. Med. **27**: 575 (May) 1918.

of infectious spirochetal jaundice that have been reported in Japan [3] and in Europe.[4] The identity of the American type and the foreign type of infectious jaundice has never been established. On epidemiologic grounds there is a marked difference, in that the American type seems to be readily communicable by direct contact, and it occurs in quite well-defined outbreaks, especially among schoolchildren. These features are not characteristic of spirochetosis. It is not certain whether epidemic jaundice, which was known to Hippocrates and his disciples, and which is often spoken of as Weil's disease, is a single disease entity, or whether it may result from a number of different etiologic factors. Jaundice was prevalent among the federal troops during the Civil War, and has often been associated with troops in other wars.

Of 700 cases here analyzed, more than half were in children of the school age (from 5 to 14 years). Multiple cases in a household or a school were extremely common. The peak of the epidemic was in November and December, 1921. Marked prostration and slow recovery were characteristics of many cases of the disease. For these reasons, and because of personal observation of the Cooperstown outbreak, I am of the opinion that the epidemic jaundice that occurred throughout New York State during the winter of 1921-1922 was spread by droplet or contact infection from person to person, and that the etiologic agent of this epidemic may have been some unrecognized organism or virus that is carried in the nasopharyngeal secretions [5] of persons ill of the disease.

3. Inada, Ido, Hoki, Kaneko and Ito: The Etiology, Mode of Infection, and Specific Therapy of Weil's Disease (Spirochaetosis Ictero-haemorrhagica), J. Exper. Med. **23**: 377 (March) 1916.
4. Dawson, B.; Hume, W. E., and Bedson, S. P.: Infective Jaundice, Brit. M. J. **2**: 345 (Sept. 15) 1917. Stokes, A.; Ryle, J. A., and Tytler, W. H.: Weil's Disease (Spirochaetosis Ictero-Haemorrhagica) in the British Army in Flanders, Lancet **1**: 142 (Jan. 27) 1917.
5. Herrman, Charles: Acute Infectious Jaundice (Spirochetosis Icterohemorrhagica), New York M. J. **107**: 1068 (June 8) 1918.

THE HEART IN PERNICIOUS ANEMIA*

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The death of a patient ill with pernicious anemia, a few hours after a transfusion of blood, with symptoms reported to be those of acute heart failure, brought home to me how little I knew of the heart in this disease. The patient referred to had only 660,000 red corpuscles per cubic millimeter of blood. A series of three blood transfusions was given, resulting in some improvement with the first, a moderate upset with the second, and a severe reaction after the third. This reaction was described by the physician in attendance as being characterized by dyspnea and the disappearance of the pulse at the wrist; the heart sounds remained audible. It began before the transfusion was complete, and persisted until the death of the patient about five hours later.

What was the cause of the attack and subsequent death? Could there have been an embolus to the coronary artery, or could a large clot of blood have impeded the passage of blood through one of the cardiac valves? I was unable to answer these questions with any degree of assurance. In the hope of acquiring some information as regards the cardiac aspects of pernicious anemia, I have examined the postmortem records; and, through the courtesy of Dr. R. C. Larrabee of the blood service, electrocardiograms have been obtained of a number of patients affected by the disease.

No attempt has been made to record the clinical findings, such as murmurs. I believe that the systolic murmurs are usually of greatest audibility over the base of the heart and are especially well transmitted to the carotids. My experience also agrees with that of other observers who find that the murmurs appear first at the base and later extend to the apex, while on the recovery of the patient the murmurs disappear from the heart in the reverse order, i. e., from the base last.

PATHOLOGY

Eleven cases were found in the postmortem records of the Boston City Hospital during the period 1916 to 1921, inclusive. The data may be thus analyzed:

There were six men and five women. One patient was 28 years of age, but the remaining ten were in the age period of 50 to 70 years. Enlargement of the heart of a degree that should be recognized clinically was not found; the actual weights of the hearts were between 240 and 300 gm. in six, and between 300 and 400 gm. in five.[1]

The myocardium was abnormal to macroscopic examination in all but three cases. These did not differ from the others in the duration of the attack, or in the severity of the blood picture. The heart muscle was described as soft, flabby, pale brown, pale red, yellowish and muddy yellow. Microscopic examination, however, revealed the heart muscle to be normal in all but two of the eleven cases. Of these two, one showed a small patch of fibrosis, and the other, large areas of acute necrosis of the fibers. The importance of the findings in the latter is lessened by the possibility of postmortem changes, in that the section was made twenty-two hours after death.

In four instances, the endocardium, especially on the papillary muscles, was mottled and streaked with yellow, the so-called "tigroid" appearance. The epicardial fat was recorded as moderately increased in four cases, and greatly so in two.

The hearts in this group of eleven necropsies were otherwise normal, save for moderate sclerosis of the coronary arteries in four, of the mitral valves in five, and of the aortic cusps in two instances, respectively. These findings are probably best explained as due to arteriosclerosis. They did not differ from those noted in the hearts of other patients of the same age period but not affected by pernicious anemia.

There were no instances of thrombus formation.

ELECTROCARDIOGRAPHIC FINDINGS

Electrocardiograms were taken in the cases of twenty patients, all of whom were ill with a severe attack of pernicious anemia. In but one case was an arrhythmia present. This case was a clear-cut instance of rheumatic heart disease, auricular fibrillation and mitral stenosis, in addition to pernicious anemia. Examination of the tracings revealed nothing that might be considered of diagnostic value as peculiar to pernicious anemia. Some of the details will be cited.

The heart rate was less than 100 a minute in fifteen cases, while the maximum rate was 122.

The P wave was normal.

The P-R interval varied from 0.12 to 0.15 second in fourteen; in five, it was from 0.16 to 0.18 second, and in one, it measured 0.20 second.

* From the Heart Laboratory of the Boston City Hospital.

1. According to Gray's Anatomy (Spitzka, E. A.: New American Edition, Philadelphia, Lea & Febiger, 1913, p. 562), the normal heart varies in weight from 240 to 360 gm.

The maximum voltage of the R wave was less than 10^{10-4} volt in ten of the cases; in but four of the remaining ten did it measure more than 13^{10-4} volt.

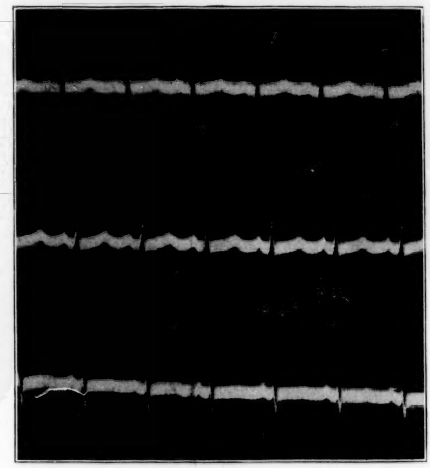
The T wave exceeded 4.5^{10-4} volt in only two cases. It was upright in Lead 2 in all save the electrocardiogram of the patient with auricular fibrillation; its inversion here was doubtless an effect of digitalis administration.

The Q-R-S complex was normal in appearance and in duration, varying from 0.03 to 0.08 second.

The S-T interval varied from 0.20 to 0.32 second; in half the cases, it was 0.28 second or more. It will be noted that these figures vary from the normal of 0.24 to 0.28 second stated by Buchanan;[2] but on calculating the Q-R-S-T interval by the method of Fenn,[3] it was found that in no case did the actual measurement of this period differ from its calculated length by more than 0.03 second. The probable error when using Fenn's method of calculating this interval is not more than 0.05 second.

The string shadow returned to the iso-electric position after the Q-R-S complex in all but three of the nineteen cases showing normal rhythm; in these three, the failure of the string to return to the base line was but slight, and was present only in Leads 1 and 2. Such a finding was noted in the electrocardiogram of the patient affected by fibrillation of the auricles, but the case must be excluded from this consideration owing to the presence of digitalization.

A rather surprising fact is that in fifteen of the twenty electrocardiograms the excursion of all waves in Lead 3 was small; and in two of the remaining five, the waves were but moderate in height. However, it does not seem safe to consider this observation of diagnostic value, as it is probably explainable by the position of the heart.



Severe pernicious anemia. The coarser abscissas mark off periods of one-tenth second instead of the more usual one-fifth second.

The index[4] of ventricular preponderance was within normal limits in all. It exceeded + 12 in only three cases, and showed a minus result in only two. In the fifteen remaining cases, the index was positive and less than + 12.

COMMENT

The most constant and conspicuous change disclosed in the hearts of which the necropsy findings have been analyzed was a varying degree of fatty degeneration of the myocardium. A standard work on pathology[5] states that this change in the heart muscle may be found associated with a variety of conditions, such as hypertrophy of the heart, myocarditis, pericarditis, coronary disease, anemia, leukemia, poisoning with phosphorus and arsenic, diphtheria, scarlet fever and typhoid fever. The same authority is quoted as asserting that small, or even considerable areas of fatty degeneration appear, as a rule, to be of little or no clinical significance; they are at least not inconsistent with perfect health.

It should be emphasized that the fat is not due to a degeneration or breaking down of the muscle fibers, but is brought by the blood stream and deposited in the heart. The term "fatty degeneration" is perhaps a misnomer. The histologic picture of the myocardium was normal in all but two of the cases reported above, and it is not clear that the pernicious anemia was responsible for the changes noted in these two hearts.

I am not aware of any statements in the literature as to the functional condition of the heart in pernicious anemia. Wiggers[6] writes that, after severe hemorrhage and in shock, he has never observed irregularities, nor were the functions of conductivity and contractility impaired in experimental animals. Pernicious anemia, in that in it the anemia is of long duration, is not entirely analogous to the conditions of which Wiggers writes; but so far as the electrocardiograms on the twenty cases I have studied are concerned, nothing abnormal was found.

In an interesting study of pernicious anemia, Fahr and Ronzone[7] found that, in a severe case of this disease, the minute volume of the blood was increased about 250 per cent., and the systolic output of the heart was increased in the same degree. This was brought about largely by an increased blood velocity due to lowered viscosity of the blood and an increased effective cross-section of the vascular tubing. The same observers conclude that the coronary circulation is at the upper limit of the possible, being about as large as that found in severe work.

That the increase in the output of the heart is not accomplished by a lengthening of the duration of ventricular systole would appear from the electrocardiographic studies reported in this paper. It was found that the measurement of the Q-R-S-T interval, which is a very fair guide as to the duration of ventricular contraction, when compared to its calculated length, the formula of Fenn[3] being used, in no case showed prolongation beyond the limits of error of the method. This tends, therefore, to support the findings of Fahr and Ronzone.[7]

2. Buchanan, J. A.: A Study of the S-T Interval in One Thousand and Twenty-Eight Electrocardiograms, Arch. Int. Med. **28**: 828 (Oct.) 1921.

3. Fenn, G. K.: Studies in the Variation of the Length of the Q-R-S-T Interval, Arch. Int. Med. **29**: 441 (April) 1922.

4. White, P. D., and Bock, A. V.: Am. J. M. Sc. **156**: 17 (July) 1918.

5. Delafield and Prudden: A Text-Book of Pathology, Ed. 11, revised by F. C. Wood, New York, William Wood & Co., 1919, p. 611.

6. Wiggers, C. J.: Circulation in Health and Disease, Philadelphia, Lea and Febiger, 1915.

7. Fahr, George, and Ronzone, Ethel: Circulatory Compensation for Deficient Oxygen Carrying Capacity of the Blood in Severe Anemias, Arch. Int. Med. **29**: 331 (March) 1922.

In an editorial[8] on this work of Fahr and Ronzone, it is pointed out that if such patients (those with severe anemia) are not at rest, and additional effort is demanded of the heart already close to the margin of oxygen sufficiency for its musculature, the latter may readily suffer from anoxemia. It is generally believed that the fatty degeneration of the myocardium is the result of the lack of oxygen in the blood, but, as mentioned above, its clinical significance is not clear. That the tigroid or fatty change, visible especially on the papillary muscles, is to be considered evidence of degeneration of the myocardium would seem to be unwarranted.

It has been pointed out that the heart possesses a remarkable power to protect itself from anoxemia. Starling[9] states that it can extract almost all the oxygen from blood low in oxygen (i. e., up to 0.5 per cent. of the oxygen in the blood). However, since in severe pernicious anemia the heart and blood vessels have compensated by making maximal the rate at which the blood is circulated, it is obvious that any exertion on the part of the patient will readily produce a condition in which the needs of the heart, nervous system and other organs for oxygen cannot be met. In agreement with this in cases of severe pernicious anemia, one observes, following physical exertion, symptoms which force the patient to desist from the activity.

When the patient is given a transfusion of blood, especially if it is large in amount, the viscosity of that in the patient's blood vessels is rapidly raised, and the conditions to which the heart has adjusted itself are disturbed. It might reasonably be supposed that in very severe cases, in which the "fatty degeneration" of the myocardium (if it does impair the heart) is extensive, the heart might have difficulty in propelling onward the more viscid fluid.

Such considerations lend the chief support to the belief that embarrassment of the heart may account for untoward results after a blood transfusion. That the heart is upset by a transfusion is probably more or less theoretical, for evidence of cardiac embarrassment is not obtained by the blood service of the Boston City Hospital, where a large number of blood transfusions have been given to patients affected with pernicious anemia, often of a severe type. Various reactions occur, but in them the heart has played little if any part. The amount of blood infused is kept down by the limitations of the donor; more than 500 c.c. is seldom given.

The upset in the patient referred to in the beginning of this paper was probably due to one of the reactions associated with blood transfusions and not primarily cardiac in origin, the discussion of which is beyond the scope of this paper.

SUMMARY AND CONCLUSIONS

The postmortem findings in eleven cases of pernicious anemia have been analyzed. The most constant finding was "fatty degeneration" of the myocardium. Thrombi were not found.

Electrocardiograms were taken from twenty patients. No abnormalities of diagnostic significance were found.

The Q-R-S-T interval was of normal duration. This demonstrates that the increased output of the heart, described by Fahr and Ronzone,[7] is not accomplished by a lengthening of the ventricular systole.

There is ample reason for keeping at complete rest a patient who is ill with a severe attack of pernicious anemia.

The fat noted in "fatty degeneration" is brought to the heart by the blood, in accordance with a normal physiologic process; and evidence is wanting that the efficiency of the myocardium is impaired thereby.

Untoward reactions that sometimes follow transfusions of blood in cases of pernicious anemia are not primarily cardiac in origin.

270 Commonwealth Avenue.

8. The Circulatory Compensation in Severe Anemias, editorial, J. A. M. A. **78**: 1460 (May 13) 1922.
9. Starling, E. H.: Mechanisme de compensation de cœur, Presse méd. **60**: 641 (July 29) 1922.

CHRONIC PULMONARY MILIARY TUBERCULOSIS *

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The pulmonary form of acute miliary tuberculosis is admittedly the most rapidly fatal of all types of phthisical lesions. Its diagnosis does not as a rule present many difficulties because the marked prostration, cyanosis and dyspnea, which are apparently out of all proportion to the scant signs in the chest, constitute a veritable diagnostic triad. The roentgen-ray findings in such cases may at first be inconclusive; but, before long, the appearance of the characteristic diffuse dissemination of the miliary tubercles dispels any doubt as to the true nature of the process.

A form of chronic pulmonary tuberculosis is not infrequently observed in which the miliary tubercles appearing in large numbers is an important element in the lesion. These may be confined to the upper lobes, but are most commonly found in the lower lobes. It is only rarely that one finds a chronic case in which the miliary tubercles are diffusely and uniformly scattered throughout both lungs. These cases of phthisis pulmonalis, when they are presented for treatment, show clinical features and pursue a course which are at great variance with the ordinary acute type of this affection. They are more amenable to treatment, and they are subject to few exacerbations of activity. Furthermore, serial roentgenographic examinations of such cases may disclose not only a clearing of the collateral inflammation around the tubercles but also definite evidence of fibrosis and partial calcification of the tubercles themselves; and what is perhaps still more striking, there may occur apparent resolution in areas previously extensively involved.

The paucity of literature and the failure of standard textbooks on the subject to treat of such cases prompts the report of those which came under observation and which may possibly be designated as cases of chronic pulmonary miliary tuberculosis.

REPORT OF CASES

CASE 1.—A Russian clerk, aged 20, was admitted to the Bedford Sanatorium in October, 1921. His mother and two sisters died of a rapidly progressing tuberculous lung trouble. Though subject to frequent and protracted colds for eight years, he, nevertheless, led a normal life and was not hindered from partaking in the usual sports. July 11, 1921, he was suddenly seized with a severe attack of hemoptysis followed by fever ranging from 101 to 103 F., night sweats,

* From the Bedford Sanatorium for Incipient Tuberculosis, Dr. Maurice Fishberg, chief of service.

productive cough and pain in the chest. He remained in bed for five weeks, and although the constitutional symptoms abated to a large extent, he complained on admission of a dry, hacking cough, loss of weight and strength, and marked dyspnea on slight exertion.

Physical exploration of the chest on admission disclosed an extensive lesion in the upper lobe of the right lung with suggestion of cavitation in the apical field, as well as thickened pleura at the right base. Roentgenologic examination at the same time disclosed definite evidence of miliary infiltration throughout both lungs with probable cavitation at the right apex (Fig. 1). Examination of the sputum was repeatedly positive; the Wassermann test and examination of the urine were repeatedly negative. The blood pressure was 105 systolic and 65 diastolic.

On account of the dyspnea and distressing cough the patient was kept in bed; and, although his temperature rarely rose above normal, the prognosis was considered unfavorable. However, after a protracted stay in bed there occurred a most remarkable improvement in his general condition. The cough became less distressing, dyspnea practically disappeared, he gained in weight and strength, expectoration gradually diminished, and tubercle bacilli could no longer be found in the sputum. Notwithstanding this marked improvement, physical findings in the chest remained practically unchanged so far as the right lung was concerned, while numerous moist râles were now discovered in the midportion of the left lung, radiating from the hilum region to the periphery. At the same time, careful examination of the serial roentgenograms in this case disclosed phenomena that are both unusual and intensely interesting.

Figure 1, reproduced from a roentgenogram taken on admission, shows extensive dissemination of miliary tubercles throughout both lung fields. The tubercles appear fairly uniform in size, and their hazy outline is suggestive of collateral inflammation. The tendency to conglomeration in the right basal field is also to be noted. In a plate taken two and a half months later there is definite evidence of clearing

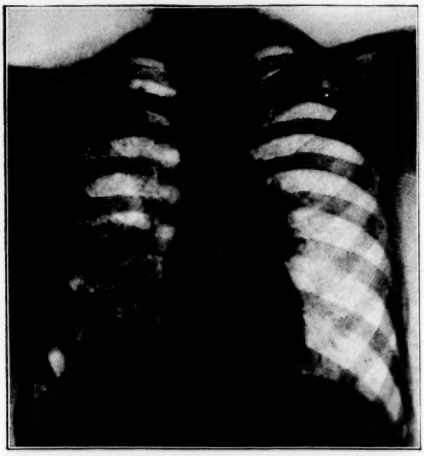

Fig. 1 (Case 1).—Extensive dissemination of miliary tubercles throughout both lung fields; they are of uniform size and distribution, and tend to conglomerate in the right basal field

of the collateral inflammation so that the tubercles appear more discrete. Furthermore, the increased density of the tubercles as well as their tendency to arrange themselves in linear formation, as it were, are strongly suggestive of fibrosis. This evidence of fibrosis is particularly striking in the right basal field where, instead of the conglomerate tubercles seen in the first plate, there now appear dense, ropy radiations from the hilum region.

Still further evidence of clearing and fibrosis as well as apparent disappearance of some of the shadows noted in the earlier plates was shown in another plate taken eight months after admission. But the changes noted in Figure 2, taken

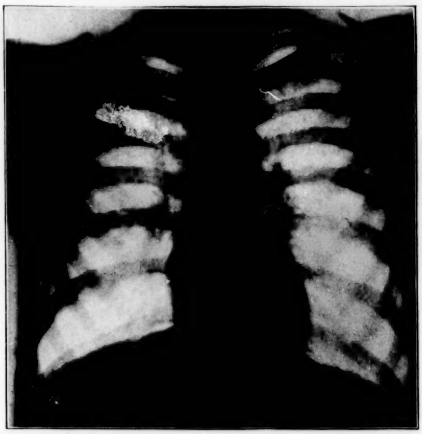

Fig. 2 (Case 1).—Appearance one year later: marked clearing and fibrosis; disappearance of most of the miliary tubercles seen earlier.

one year after admission, are the most remarkable. Here the extensive dissemination of the miliary tubercles throughout both lung fields, which is so apparent in Figure 1, can no longer be seen. Instead, there is marked hilum fibrosis with increased lung markings throughout, and only questionable evidence of infiltration in the upper lobes can be noted.

The striking features of this series of roentgenograms are the marked clearing and fibrosis, and particularly the evidence of resolution, which they apparently show to have occurred in areas previously the seat of extensive miliary tuberculization.

CASE 2.—A woman, aged 30, English, upholsterer, whose family and previous history were irrelevant, was admitted in November, 1922, complaining of cough, dyspnea and malaise. In the winter of 1916 she began to suffer from "nervous dyspepsia." However, she got on quite well until the early part of November, 1918, when she had a sudden attack of moderately severe hemoptysis. This was followed by marked constitutional symptoms, including fever of from 101 to 102, severe dyspnea and general prostration, confining her to bed for more than four weeks. Shortly afterward she was admitted to the Densewood Sanatorium, England, where, after a stay of three months, her general condition improved so that she was discharged with the disease arrested.

On her arrival in this country, in July, 1921, cough and expectoration recurred and became progressively worse. With this she began to lose weight and strength rapidly and experienced persistent afternoon rise of temperature, as well as night sweats, pains in the chest and dyspnea on slight exertion.

Physical examination of the chest on admission disclosed bilateral upper lobe infiltration with cavitation in the right apical field, while roentgenologic examination (Fig. 3) disclosed miliary infiltration throughout both lungs, more extensive in the upper lobes and especially marked on the right side. The sputum was consistently positive; the urine and Wassermann tests were negative; the blood pressure was 115 systolic and 70 diastolic.

The patient exhibited mild constitutional symptoms of toxemia during the first two weeks of her stay at the sana-

torium, but has been showing improvement since. Her cough has become less distressing, expectoration has diminished considerably, and dyspnea has become less marked. She has gained in weight and strength, and is able to be up and about, assisting in household duties in addition to assigned exercise.

COMMENT

The most interesting features in the clinical history of these cases is their similarity to acute miliary tuberculosis. Here we have two patients whose initial symptom was hemoptysis followed by marked constitutional symptoms of toxemia and, more especially, dyspnea, which was apparently out of all proportion to the discoverable physical signs in the chest—a clinical picture almost typical of acute miliary tuberculosis. Furthermore, roentgenographic examinations afforded undeniable evidence of the existence of miliary tuberculosis by disclosing the typical lesion. The subsequent history of these cases, however, was not in concert with the suspected early diagnosis. There was a decided improvement in the condition. The constitutional symptoms abated, the local symptoms diminished in severity, and dyspnea disappeared. Simultaneous with this, the roentgenograms disclosed at first evidence of clearing of the collateral inflammation, then evidence of fibrosis and possibly calcification of some of the tubercles, and finally also resolution in other areas once the seat of extensive miliary tuberculization.

Extensive miliary tuberculization of the acute type has been the subject of extensive investigation for many years, and a voluminous literature has accumulated as a result of the numerous recorded observations. Until recently, however, very little attention has been given to the study of those cases of chronic pulmonary tuberculosis in which the miliary tubercles are diffusely scattered throughout both lungs—a type that may possibly be designated as chronic pulmonary miliary tuberculosis. Northrup [1] discusses the case of a boy,

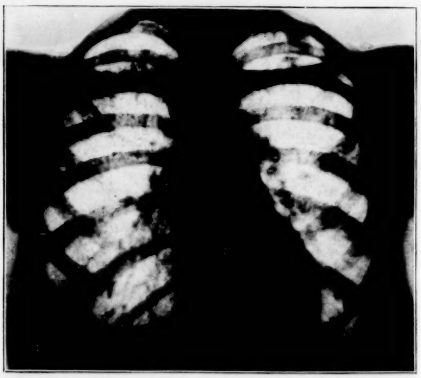

Fig. 3 (Case 2).—Extensive dissemination of miliary tubercles of uniform size and distribution throughout both lungs.

aged 6, suffering from pulmonary miliary tuberculosis diagnosed by roentgenographic studies, who left the hospital much improved and whose disease subsequently ran a chronic course. Von Muralt [2] reported two similar cases, in which, although the patients subsequently succumbed as a result of extensive miliary tuberculization of the central nerve system and other organs, had long been known, on the strength of roentgen-ray findings, to suffer from pulmonary miliary tuberculosis. Recently Bierman [3] has called attention to the mild course of the disease in some who on roentgenologic study showed

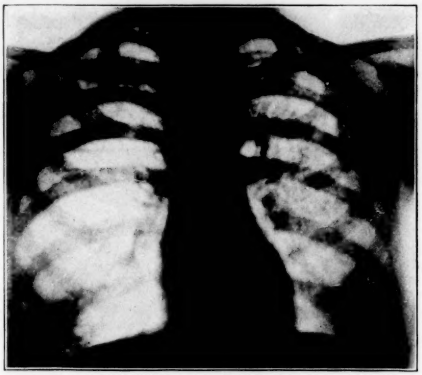

Fig. 4.—Extensive miliary tuberculization of left lung; tubercles appear discrete.

evidence of extensive miliary tuberculization of the lungs; and Wallgren,[4] recounting his experience at the Pirquet clinic, mentions the fact that he had there seen two children who were doing well more than six months after a diagnosis of miliary tuberculosis was made in their cases on clinical and roentgen-ray evidence.

A study of the patients admitted to our care disclosed the fact that pulmonary miliary tuberculosis of the chronic type occurs often enough to be of more than academic interest. Miliary tuberculization affecting an entire lung, or confined to the lower lobes of organs already affected with fibrocaseosus tuberculosis in the upper lobes, is not necessarily of grave prognostic import. Figures 4 and 5, respectively representing unilateral and moderately extensive bilateral chronic miliary tuberculization, are of patients who made remarkable progress toward recovery during their stay at the sanatorium, the former having already been discharged with disease arrested; while the two cases with very extensive pulmonary miliary tuberculosis which form the basis of this communication have reached a stage wherein their lesions can be safely considered to be arrested in the first instance and quiescent in the other. It is altogether fair, therefore, to stress the fact that the prognosis in this form of miliary tuberculosis, other things being equal, should be promulgated with much less of the usual pessimism.

The diagnosis of this type of lesion is impossible of attainment without the assistance of repeated and painstaking roentgenologic observations. In our own cases, as well as those reported by Northrop and von Muralt, not a single correct diagnosis was made without such help, and we have reason to believe that the

1. Northrup, M. W. P.: Disseminated Miliary Tuberculosis of Lungs and Skin, Am. J. Dis. Child. **7**: 24 (Jan.) 1914.
2. Von Muralt, L.: Cor.-Bl. f. Schweiz. Aerzte **46**: 481 (April 15) 1916.
3. Bierman, M.: Minnesota Med. **5**: 661 (Nov.) 1922.
4. Wallgren, A.: Upsala Läkaref. Förh. **27**: 1 (March) 1922, quoted in Tubercle **4**: 183 (Jan.) 1923.

paucity of the literature on this subject is undoubtedly due to the fact that many clinicians do not yet realize how many pathologic changes in the lungs are missed when roentgenographic studies are not a part of the routine in the examination of pulmonary patients. The physical signs produced by this type of lesion are commonly interpreted as being due to secondary bronchitis and bronchiectasis, or to pleuritic changes so frequently encountered in those with advanced tuberculosis.

It is only on careful and often repeated roentgenographic examination that the true nature of the existing pathologic processes is disclosed, a fact that cannot be too emphatically stressed. Furthermore, serial roentgenograms are indispensable in following the progress of the case. The physical signs offer no assistance in this direction. It is the serial roentgenograms that demonstrate the multifarious changes that may occur as clearing, fibrosis, calcification, and even partial resolution, take place.

The mutations of the roentgenographic shadows observed in these cases are not unlike, but are perhaps more remarkable, than those seen in ordinary parenchymatous tuberculous involvements. At first there is evidence of clearing of the collateral inflammation, with disappearance of the fuzzy character of the tubercles. The lung takes on a more transparent appearance and the tubercles stand out more clearly, appearing less confluent, although not much denser than before. At the same time, there may also be definite evidence of fibrosis at the hilum and an increase in the linear markings radiating from it in all directions toward the periphery, along which discrete tubercles seem to arrange themselves, giving the beaded appearance so often noted. When improvement goes on unhindered,

Fig. 5.—Moderately extensive bilateral dissemination of the miliary tubercles, which appear discrete.

the numerous tubercles become denser, more clear-cut and discrete, suggesting further fibrosis; and eventually even calcification may occur. Figure 6 shows the roentgenographic appearance of the lungs of a man admitted to our care with a history pointing to extensive pulmonary tuberculosis in adolescence. Here the calcification of a widespread lesion has taken place to an extent only rarely observed, with the result that the

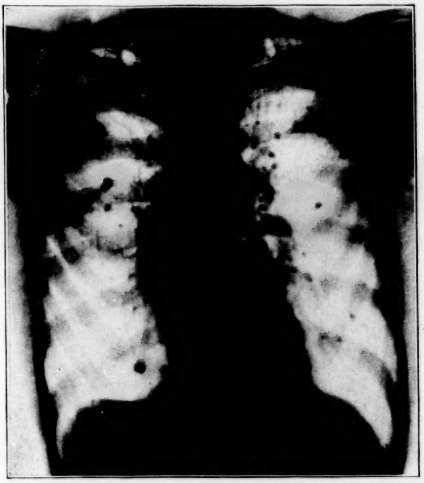

Fig. 6.—Calcification of a widely disseminated bilateral miliary tuberculization.

patient has practically been cured of his tuberculosis, judging from the present signs and symptoms.

That in extremely rare cases definite evidence of resolution is seen in areas previously extensively involved with miliary tubercles has already been brought out in the earlier part of this paper, and was illustrated by Figures 1 and 2. The work of Gardner [5] and others is of interest in this connection. Gardner shows that resolution of a tuberculous focus can take place in animals infected with an attenuated organism.

DIFFERENTIAL DIAGNOSIS

Extensive chronic pulmonary miliary tuberculosis cannot always be easily differentiated from penumonoconiosis. In neither condition may severe constitutional symptoms of toxemia enter into the clinical picture when the patient presents himself for study. Hemoptysis may be complained of in either case, and dyspnea may be the cardinal symptom in sufferers of one malady or the other. Moreover, the roentgenographic appearance of the lungs in both instances is essentially similar. Even the presence of a fibroid process in the upper lobes of the lungs does not necessarily settle the diagnosis, for, as it is well known, the pathologic changes engendered by long standing pneumonoconiosis may very strikingly resemble the changes seen in advanced fibroid phthisis. It is only the careful inquiry into the previous history of the patient, particularly into the occupational hazards to which he may have been subjected, together with the repeated examinations of the sputum, that make possible a differential diagnosis. On the one hand, we may get a history of prolonged exposure to occupations that

5. Gardner, L.: Am. Rev. Tuberc. **6**: 163 (May) 1922.

are known to produce pneumonoconiosis; on the other hand, tubercle bacilli may be found in the sputum and thus help establish the true nature of the pathologic process. However, it must be remembered that pulmonary tuberculosis may and often does develop in subjects suffering from pneumonoconiosis.

From acute pulmonary miliary tuberculosis the chronic form can be differentiated only by observing the clinical course of the case, the previous history in either affection being as a rule irrelevant. In the former, the constitutional symptoms are distressing from the very outset, and the disease runs rapidly to a fatal termination. The physical findings to the very end may offer no clue to the nature of the process. On the other hand, in the chronic form in which the clinical picture may at first be undistinguishable from the acute type of the disease, the subsequent tendency to improvement and chronicity in the presence of a lesion that on roentgenologic examination is found to be miliary in character is sufficient to warrant the diagnosis of the chronic form of this affection.

There remains another condition that may be confounded with chronic pulmonary tuberculosis, namely, pulmonary miliary malignancy. This pulmonary affection, although of rare occurrence, has frequently puzzled both the internist and the roentgenologist in their efforts to establish a differential diagnosis between these two conditions. The symptomatology of the two may be almost identical, and it is only a careful search for the primary neoplasm or the finding of tubercle bacilli in the sputum that finally clinches the diagnosis. It is different in the case of the usual metastatic pulmonary neoplasm, the roentgenographic appearance of which is quite characteristic. In such cases the shadows are of various sizes and densities, and there are no evidences of collateral inflammations to designate specific tissue reaction. On the other hand, in miliary tuberculosis the tubercles are much smaller, and they are usually more evenly distributed and are more uniform in size and density. There are also to be seen some evidences of collateral inflammatory changes indicative of tissue reaction to the tubercle.

CONCLUSIONS

1. In the form of pulmonary tuberculosis described in the foregoing, extensive miliary tuberculization is an important element in the lesion, and the chronic form of this affection may possibly be designated as chronic pulmonary miliary tuberculosis.

2. There is a similarity between the early clinical picture of the acute and that of the chronic forms of pulmonary miliary tuberculosis.

3. The chronic type of this affection is relatively mild and of fair prognosis.

4. A correct diagnosis in and a study of the progress of cases of the chronic form of pulmonary miliary tuberculosis cannot be made without repeated roentgenographic observations, the physical findings being of little value in either respect.

5. A differential diagnosis must be made between this type of lesion and those caused by acute miliary tuberculosis, pneumonoconiosis and miliary pulmonary malignancy.

AN OPERATION FOR HALLUX VALGUS

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Notwithstanding the variety of operations proposed and used for the common deformity of hallux valgus, the appearance of the feet after operation has not been satisfactory in a considerable number of cases either to the patient or to the surgeon. It is true that relief of pain is the chief end sought, and this may be gained by any procedure that removes both the exostosis on the exposed border of the head of the first metatarsal

Fig. 1.—Hallux valgus before operation (left) and six months after operation (right), showing recurrence of deflection of great toe.

Fig. 2.—Change in the plane of the articular surface of the head of the first metatarsal; after a period of six months had elapsed, there was recurrence of a moderate degree of the original deformity.

Fig. 3.—Effect of tendon pull: When the tendon of the extensor hallucis pulls at the point of its normal insertion (a), it tends to increase any lateral deflection that may be present. If the end of the tendon is transplanted to the medial aspect of the base of the first phalanx (C), the toe is pulled inward. *D* indicates the center of joint motion.

and the bursa overlying it. However, if in addition to this a normally straight toe can be produced without jeopardizing function, the final result would be more gratifying, and, as a matter of fact, it is not difficult to attain.

The fundamental causes of the postoperative recurrence of the deformity are the distorting line of pull of the tendon of the extensor hallucis muscle, and an alteration in the plane of the articular surfaces of the bones which form the great toe joint. Tapered shoes and stockings are, of course, contributing causes; but, in spite of these, the toe will resume an approximately normal alinement when pressure is relieved, if mechanical conditions permit.

Correction of either the abnormal line of tendon pull or of the plane of the articular surface alone is not sufficient when there is marked deformity. Figure 1 illustrates a case of hallux valgus before and after an incomplete operation. In this instance the removal of the exostosis and the bursa was followed, as usual, by the relief of pain; but the deformity appeared again sometime later. Figure 2 illustrates a case in which the plane of the articular surface was changed by excision of a considerable portion of the head of the first metatarsal, and yet the deflection of the toe again became noticeable.

Fig. 4.—Line *A*, alteration in plane of articular surface of head of metatarsal; line *B*, bone incision at base of first phalanx to compensate for condition present in head of metatarsal.

These are instances of a common and annoying experience which rearrangement of the point of attachment of the tendon of the extensor hallucis and proper consideration of the plane of the joint will prevent.

An important factor in the development of a faulty line of pull of the tendon is the loose attachment of its sheath at the base of the toe, which permits its enclosed structure to creep to the outer side of the center of motion of the joint, once the digit has been crowded by shoe or stocking from its normal alinement. This gives the tendon a bowstring effect shown diagrammatically by the line *A-B* in Figure 3.

To overcome this it has been my custom to sever the tendon of the extensor hallucis a short distance above its insertion, and to dissect the tendon and its sheath free to a point somewhat above the head of the first metatarsal. Both structures are then carried toward the median line, and the slightly macerated end of the tendon is implanted in a shallow channel on the medial side of the base of the first phalanx, covered with periosteum and other fibrous tissue and firmly sutured in this position. Thus the line of pull is established inside the center of motion of the joint (*D*) as shown by the line *B-C* in Figure 3.

In very mild cases this change of tendon insertion may be all that is required to prevent a recurrence of the outward deviation of the toe. In long-standing cases with decided deformity, however, there is frequently an alteration in the plane of the joint surface which gives it an outward tilt.

This may be sufficient to defeat the purpose of tendon transplantation, and therefore it seems advisable to compensate for the abnormal plane of the head of the metatarsal by shortening the medial border of the first phalanx.

Fig. 5.—Line of incision through which joint is approached.

To accomplish this, a wedge is excised from the base of the bone, and its articular surface is concaved, as shown by line *B* in Figure 4.

In my experience this has proved more satisfactory than reshaping the head of the metatarsal, both from an operative and from a functional point of view.

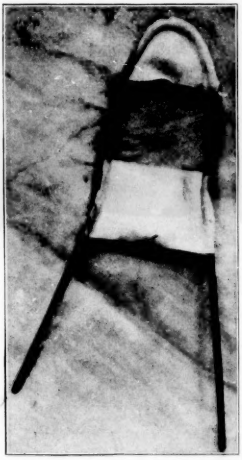

Fig. 6.—Wire splint designed to be incorporated in the postoperative dressings; any degree of overcorrection may be obtained by bending the wire; the lower strap of adhesive should be well above the incision.

Fig. 7.—Use of wire splint in dressing.

A very practical approach to the joint is indicated in Figure 5. An elliptic incision, with its lower angle prolonged downward toward the tendon, permits removal of the redundant skin and bursa in one mass, and at the same time leaves clean-cut edges for approximation when the wound is closed.

The simple wire splint shown in Figures 6 and 7, which I have used for many years, provides a convenient way of holding the toe in overcorrection during convalescence. It is much more comfortable than a plaster dressing; and, as it may be easily removed, it

Fig. 8.—Result six months after operation.

affords an opportunity for inspection of the wound and for the institution of voluntary motion, which should be encouraged at the end of a week.

The result that may be expected from this operation is shown in Figure 8.

576 Fifth Avenue.

LUPUS ERYTHEMATOSUS AS A SYSTEMIC DISEASE *

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The clinical picture of localized or discoid lupus erythematosus, with which I wish to contrast the disseminate form with constitutional manifestations, is familiar to most practitioners. The conception of a grave form of lupus erythematosus with severe systemic disturbances and with the extension of the local process originated with Kaposi. In 1872 he first called attention to the presence of toxic symptoms, and was evidently familiar with the hyperpyrexial attacks occasionally seen when discoid lesions are present. Very little has been added to an understanding of the disease since his time. Boeck [1] temporarily confused the problem when he designated lesions on the fingers, which can now probably be classified with Darier's folliclis, as lesions of disseminate lupus erythematosus. The whole matter was probably still more obscured by the French tendency to enumerate a large number of subclasses of lupus erythematosus which essentially are only different degrees of the same disease.

* From the Section on Dermatology and Syphilology, Mayo Clinic.

1. Boeck, C., quoted by Jadassohn: Handbuch der Hautkrankheiten herausgegeben von Prof. F. Mracek, Vienna, Holder 3: 318, 1904.

While the cutaneous picture of disseminate lupus erythematosus is fairly well understood, the constitutional background remains, in many respects, a mystery. It is precisely this constitutional background in which the internist and the general diagnostician are fundamentally interested, because in combination with the cutaneous lesions it presents a wide variety of deceptive

CUTANEOUS CHARACTERISTICS OF DISSEMINATE LUPUS ERYTHEMATOSUS AS CONTRASTED WITH THE CHRONIC

Disseminate Lupus Erythematosus	Chronic Discoid Lupus Erythematosus
1. Many lesions usually	1. Few well-defined patches only
2. Superficial lesions with slight atrophy	2. Deeper lesions, with definite scarring and telangiectasia
3. Involvement not only of face, but also of hands, fingers, neck, chest and sometimes any part of the body	3. Usually confined to face, ears and scalp
4. Actively inflammatory, reddish to purplish patches	4. Indolent, with erythematous border only
5. Borders of lesions ill defined; sometimes resemble chronic type; sometimes more like erythema multiforme or only atrophic, purplish patches	5. Border of lesions elevated and erythematous, with characteristic epithelial plugging, and often telangiectasia
6. Very little scaling; often dirty crusting, vesicle or bulla formation	6. Dry, extremely adherent scales; on removal, epithelial plugs from the follicles may be recognized on the under side
7. Often involves the mucous membranes	7. Rarely extends beyond the vermilion border of the lip

In a goodly proportion of disseminate cases, both types of lesions may be present.

possibilities. In fact, it is impossible at this time to estimate the actual incidence of disseminate lupus erythematosus because there is every probability that cases of this type masquerade under medical diagnoses such as scarlet fever, erysipelas, typhoid fever, pellagra and the symptoms of upper abdominal lesions.

CUTANEOUS LESIONS

In the hierarchy of cutaneous diseases, disseminate lupus erythematosus differs from the chronic discoid type, with its lesions limited largely to the face and

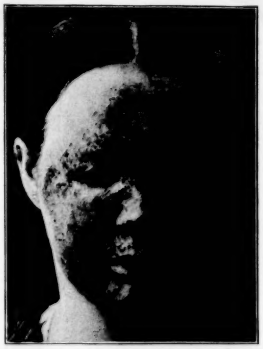

Fig. 1.—The eruption of disseminate lupus erythematosus as it frequently appears on the face.

scalp, in that disseminate lupus erythematosus resembles the erythema multiforme group of dermatoses, instead of the exceedingly chronic atrophic changes involving the follicular structures of the face and scalp (Fig. 1). Acute or disseminate lupus erythematosus

has a tendency to become more widespread in the skin than the discoid type, resembling patches of dermatitis, and erythematous plaques, sometimes bullous in character. These lesions, in contrast with the discoid type, may appear on the extremities, and the mucous membrane may be involved in varying degrees, somewhat as in the severe types of toxic erythema (Fig. 2). The chronic type may be present for years and then, especially in young persons, assume characteristics of the disseminate form. The accompanying table gives a condensed classification of the difference between cutaneous lesions of the disseminate and chronic types of lupus erythematosus.

Fig. 2.—Lesions of disseminate lupus erythematosus on the forearm.

CONSTITUTIONAL SYMPTOMS

The systemic symptoms of disseminate lupus erythematosus vary markedly in severity. Quite commonly the patient complains of a lack of physical endurance for years before cutaneous lesions appear. Irritability and sensitiveness are out of proportion to the apparent physical ailments. Vague abdominal complaints, at times severe, are almost always referred to. Very common also are aches and pains of various degrees in the joints. There may be a moderate to marked elevation in temperature for a long time, or there may be sharp hyperpyrexial attacks.

DIAGNOSIS

An outstanding feature of the condition is the protean character of its manifestations. It may resemble a number of diseases with widely varied symptoms. When the cutaneous manifestations predominate, seborrheic or eczematoid dermatitis, erythema multiforme, dermatitis venenata, the sarcoid of Boeck, lichen planus, erysipelas or pellagra may be more or less closely simulated. When the abdominal symptoms are uppermost, the presence of marked pain or diarrhea may lead to the hasty diagnosis of cholecystitis, gastric or duodenal ulcer and chronic appendicitis or colitis. If the toxic symptoms are pronounced, with high temperature and possibly a "typhoid state," confusion with typhoid fever, pneumonia, pyemia, rheumatism or malignant endocarditis often occurs (Fig. 3). The suspicion of typhoid fever is strengthened by the frequent occurrence of leukopenia, sometimes extreme. In Case 4 the leukocyte count fell to 1,800 on one occasion.

In avoiding possibilities of error in diagnosis, a careful study of the eruption is essential. The face and scalp must be scrutinized for signs of old lesions, atrophy and patches of alopecia, the face studied for erysipeloid flush, the lips for silvering, the mucous membranes for erosions, the skin of the upper trunk and neck for signs of old lupus erythematosus, and the fingers for bluish, chilblain-like papules and patches. It may almost be accepted as axiomatic that, whenever lupus erythematosus extends from the face to the body and extremities, it becomes menacing. Conversely, cutaneous lesions occurring on the body, extremities or mucous membranes in association with chronic discoid lupus erythematosus must be carefully weighed as an evidence of impending dissemination, the patient's history closely investigated, and his constitutional background studied. The identification of a disseminate lupus erythematosus is of the gravest prognostic significance, and its treatment a problem of the utmost difficulty.

CHARACTERISTICS OF THE HISTORY

The history of a patient with typical lupus erythematosus in a disseminate phase presents striking characteristics: malaise, irritability, periodic lesions of the mouth, vague abdominal complaints such as pain, diarrhea, sometimes vomiting, hyperpyrexia, and occasionally cardiac, hepatic, gynecologic, neurotic and psychic symptoms. In many instances, the urine contains large quantities of albumin. It is apparent that without lesions of the skin as a guide, this is not a highly specific picture.

ETIOLOGY

The prevalence of tuberculosis of the gland is very striking. The tuberculous adenitis may not be demonstrable clinically, yet the retroperitoneal, pelvic and mesenteric groups may be severely affected, as shown in Cases 1 and 2.

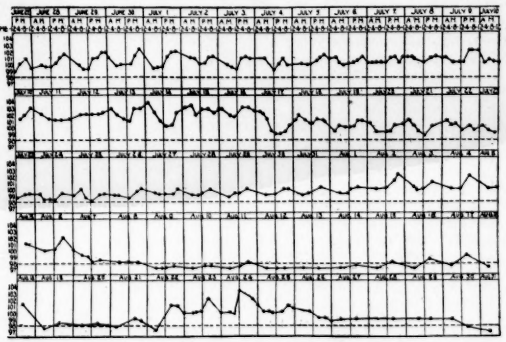

Fig. 3 (Case 4).—Temperature chart.

CASE 1.—*Disseminate lupus erythematosus with lesions of chronic and acute types.* A man, aged 33, examined, April 1, 1918, had had abdominal pain, fever, and eruption on the

skin; patches had been present for five years, and recently they had been spreading rapidly. Examination revealed typical lesions of chronic lupus erythematosus on the face, and a large number of the disseminate type on the face and neck. A slight amount of albumin was found in the urine. Exploration of the abdomen was advised because of epigastric pain and a septic type of temperature. Nothing to account for the symptoms was discovered. Treatment was of no avail, and the patient died. At necropsy, very extensive tuberculous involvement of the peribronchial, retroperitoneal and pelvic lymph glands was noted. The spleen and the left lung were also involved. The kidneys were nephropathic.

No definite evidence of tuberculous glands in the abdomen was demonstrable during life; such evidence was not even discovered on surgical exploration, yet the lymphatic system showed severe tuberculosis.

This case strikingly illustrates the presence of abdominal complaints in association with disseminate lupus erythematosus, and the importance of making a correct diagnosis to obviate an unnecessary operation.

CASE 2.—*Acute disseminate erythematosus.* A woman, aged 20, examined in September, 1920, had had a cervical abscess (tuberculous?) opened in 1914. Six months before, she had had typhoid fever and since then various symptoms, chiefly epigastric pain, falling hair and exhaustion. Physical examination revealed the skin generally dry and hot, and the hair dry, thin and lusterless. There were patches of erythema with purplish tinge on the cheeks suggesting chronic erysipelas, similar patches on the fingers, and silvering of the lower lip. All the lesions were well defined and distinctly atrophic. The urine contained large quantities of albumin, and an occasional hyaline cast. The erythrocytes numbered 3,500,000, later slightly less than that number; lymphocytes, 2,870. Roentgenograms of the chest contained evidence of tuberculosis in the left upper lobe. Acid-fast bacilli were present; guinea-pig inoculation proved negative. A subcutaneous tuberculin test was not satisfactorily performed. Rest treatment, tonic measures, quinin and pills of ferrous carbonate (Blaud's pills) were given without benefit. A severe "flare-up" occurred after tonsillectomy. This subsided somewhat and the patient was better for a time, but died, Aug. 13, 1921. Necropsy revealed ulcerative tuberculous enteritis, caseating abdominal lymph nodes, and miliary tuberculosis of the spleen. The kidneys were almost double in weight, and definitely nephropathic. Serum from the lymph nodes contained tuberculosis bacilli. Cultures of the blood and spleen were sterile.

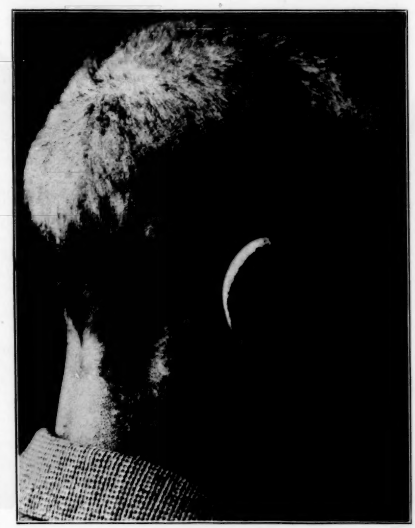

Fig. 4 (Case 5).—Patient before treatment of the glands with roentgen ray.

The condition had been diagnosed typhoid fever, probably because of periodic attacks of hyperpyrexia, a mistake in diagnosis easily made. The diagnosis depended on cutaneous lesions, and during periods of remission these were little in evidence. The flare-up of erythema on the face, and the high fever after tonsillectomy led to the mistaken diagnosis of erysipelas. Despite careful clinical study, but little evidence of tuberculosis was revealed; yet tuberculous glands in the abdomen were conclusively proved at necropsy.

Brooke,[2] Roberts,[3] Reitmann and Zumbusch,[4] and Low, Logan and Rutherford [5] have reported cases in which glands were extensively involved, and recognized on postmortem examination. Sequiera and Balean [6] report the presence of tuberculous glands in five of eleven cases of acute disseminate lupus erythematosus; necropsy was not performed in any of these. On the other hand, in another case these authors were unable to find glandular tuberculosis at necropsy. Gennerich [7] also reports a generalized adenopathy in a case which in his opinion was not tuberculous.

For a long time the extreme sensitiveness of patients with acute disseminate lupus erythematosus to comparatively banal injuries has been recognized. Sometimes these injuries are so insignificant that they would be ignored by healthy persons. The application of slightly irritating drugs, moderate heat, small doses of roentgen ray, radium or actinic light occasionally tend to cause a definite spreading of the lesions of the skin, and also add to the toxic symptoms complained of by the patient. The therapist is also cognizant of sensitiveness to irritants, and it has almost become the rule to start the treatment of lupus erythematosus, unless it is exceedingly indolent, with the mildest applications. Unusual sensitiveness to tuberculin was first noted in this country by Ravogli,[8] who reported two cases of his own and cited others in the literature. His patients died, subsequent to the injection cutaneously of 0.001 mg. of tuberculin. This preparation should not be used for diagnostic or therapeutic purposes in such cases.

Pulay [9] and Gennerich noted the hypersensitiveness of patients with disseminate lupus erythematosus, and devised rather ingenious hypotheses with regard to the etiology of the disease based on this feature. The former is inclined to attribute the manifestations of the disease to a photosensitiveness, chiefly because of the distribution of the eruption on the exposed parts. He attributes this photosensitiveness to certain metabolic products found in such diseases, for example, gout, diabetes and tuberculosis, and in other less definite

2. Brooke, H. G.: Lupus Erythematosus and Tuberculosis, Brit. J. Dermat. **7**: 73-77, 1895.
3. Roberts, L.: Acute lupus erythematosus (aigu d'emblée), Brit. J. Dermat. **23**: 167-178, 1911.
4. Reitmann, K., and von Zumbusch, L.: Beitrag zur Pathologie des Lupus erythematodus acutus (disseminatus), Arch. f. Dermat. u. Syph. **99**: 147-180, 1910.
5. Low, R. C.; Logan, W. R., and Rutherford, A.: A Fatal Case of Lupus Erythematosus, with Autopsy, Brit. J. Dermat. **32**: 253-262, 1920.
6. Sequeira, J. H., and Balean, H.: Lupus Erythematosus: A Clinical Study of Seventy-One Cases, Brit. J. Dermat. **14**: 367-379, 1902.
7. Gennerich, W.: Ueber die Aetiologie des Lupus erythematodes, Arch. f. Dermat. u. Syph. **135**: 184-207, 1921.
8. Ravogli, A.: Lupus Erythematosus Diffusus Unfortunately Treated with Tuberculin, J. Cutan. Dis. **33**: 266-272, 1915.
9. Pulay, E.: Stoffwechselpathologie und Hautkrankheiten, Dermat. Wchnschr. **73**: 1217-1234, 1921.

disturbances. Products of metabolism, such as glucose, acetone, hemoglobin, urea, lactic acid, hematoporphyrin and tyrosin, and other chemical substances have been shown to produce photosensitiveness, and any one of these substances, Pulay believes, may be the sensitizing agent in lupus erythematosus. He explains those cases in which tuberculosis is much in evidence as due to the sensitizing action of the tuberculotoxins.

Gennerich believes that there is a sensitizing agent produced in the destruction of the lymph glands by an unknown disease. According to his opinion, certain ferments of the lymphocytes are liberated which have a special affinity for the vascular system. The symmetry and localization on exposed parts he explains by the hematogenous distribution of the toxins, and their arrest in the capillaries which are subjected to irritation by light, air and mechanical agents. The toxins act as foreign proteins, and, when abundant, produce anaphylaxis. He admits the frequent association of lupus erythematosus with lymphatic disease, but does not believe that the lymphatic involvement is tuberculous.

Experience has also emphasized the hypersensitiveness of patients with disseminate lupus erythematosus to mild trauma. Particularly after the removal of tonsils and teeth, both systemic and local manifestations have been temporarily increased.

Interference with a focus of infection, as such, may produce extreme reactions. The removal of a single tooth produced a stuporous state in three of our patients. The usual reaction to the removal of pyogenic foci and to interference with a tuberculous focus is illustrated in Case 3. The hypersensitiveness to the removal of such foci need not necessarily be evidence of an etiologic relationship to the disease, although it is possible that the toxins in these foci may represent the chemical substances acting as sensitizers to light, according to Pulay's conception.

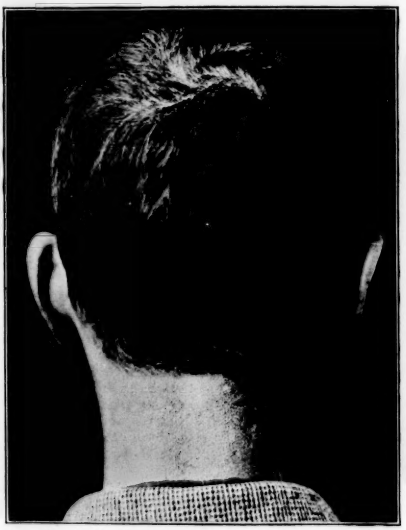

Fig. 5 (Case 5).—Appearance of scalp and neck one month after application of roentgen ray to the gland-bearing areas; no topical applications in the interval.

Case 3.—*Disseminate lupus erythematosus with lesions of the acute type.* A woman, aged 42, examined, April 27, 1921, had had burning and itching eruptions during the warmer months for ten years (severe the last three months), and enlarged cervical glands for five years. One sister had died of tuberculosis. Examination revealed acute lupus erythematosus on the face, back and arms, old neuroretinitis, and tuberculous cervical adenitis. The urine contained large quantities of albumin, and occasional showers of casts. The patient was emaciated and exhausted. General measures of treatment with rest in bed were of no avail. A cervical gland was removed for biopsy, and the patient became severely toxic, and passed into a semicomatose condition with rise in temperature and extreme vertigo. Tuberculosis of the cervical glands was confirmed by the biopsy. Nine teeth were removed, one at a sitting. Each extraction was followed by malaise and stupor. The removal of all dental foci was followed by definite temporary improvement in the eruption and general health. The patient died one year after she was first examined.

The nature of the eruption was characteristic, and needed only a proper diagnosis to explain the systemic symptoms. The sensitiveness to interference with pyogenic foci and tuberculous foci was so marked as to suggest an allergy to toxin in the focus rather than to response to surgical trauma.

It would seem more likely that a procedure such as the extraction of an infected tooth would act more in the nature of an injection of a nonspecific protein than as an eliminator of a photosensitizing agent; this theory would also better explain the temporary improvement often noted some time after all the pyogenic foci have been removed. The disease has improved strikingly after attacks of erysipelas, which acted as a nonspecific vaccination.[10] Engman and McGarry [11] report improvement in the discoid type of the disease following the use of typhoid vaccine as a foreign protein. Improvement following any of these procedures is usually temporary, and if there is a definite etiologic relationship it is not likely that the pyogenic infection is alone responsible for the cutaneous manifestations of lupus erythematosus.

My personal observation of the cases under consideration inclines me strongly to the belief that lymphatic tuberculosis is a fundamental predisposing cause of disseminate lupus erythematosus. My study [12] of the discoid type suggests that clinically recognizable tuberculosis is a relatively unimportant element in the etiology of the chronic form of the disease. This apparent paradox may perhaps be reconciled by the hypothesis that the difference between chronic and acute lupus erythematosus lies chiefly in the activity of the tuberculous focus in glandular tissue, and the patient's resistance or response to it. That the tuberculous factor in either form of lupus erythematosus is not necessarily clinically recognizable, even though it may be etiologically important, is suggested by two of the cases in the series in which the patients were virtually riddled with glandular tuberculosis without any clinically recognizable signs. Certain elements strongly suggest that patients with disseminate lupus erythematosus are under a cross fire from tuberculosis and septic infection, the one creating an allergic background while the other

10. Stokes, J. H., in discussion on Hartzell, M. B.: Lupus Erythematosus and Focal Infection, Arch. Dermat. & Syph. **2**: 445-446 (Oct.) 1920.

11. Engman, M. F., and McGarry, R. A.: The Treatment of Certain Diseases of the Skin by the Intravenous Injection of a Foreign Protein, J. A. M. A. **67**: 1741-1745 (Dec. 9) 1916.

12. Goeckerman, W. H.: Is Lupus Erythematosus Discoides Chronicus Due to Tuberculosis? Arch. Dermat. & Syph. **3**: 788-801 (June) 1921.

periodically excites explosions in the predisposed and unstable organism. It is, of course, impossible to intimate with any positiveness which infection plays which part. Stokes [13] suggests the hypothesis that, when septic infection creates the hypersensitiveness, the result of a hematogenous infection by tuberculosis bacilli is a tuberculid, while, when tuberculosis creates the hypersensitiveness, the result of a streptococcal or septic invasion is disseminate lupus erythematosus. In the most recent case under observation, the prominence of the septic aspect was especially conspicuous. The relapse was accompanied by arthritic manifestations and the development of subcutaneous abscesses which could scarcely have been due to tuberculosis, as such. The erythema multiforme-like characteristics of the acute disseminate eruption in certain cases is much more suggestive of streptococcal origin than of tuberculosis, as such.

CASE 4.—*Disseminate lupus erythematosus.* A youth, aged 18, in whom the first patch had occurred three years before, was examined, April 21, 1921. General malaise and occasional night sweats had been noted. Examination revealed the disseminate type of lesions on the cheeks, lips, scalp and fingers and in the mouth, and evidence of severe myocardial change. Persistent albuminuria and leukoplakia (lowest count 1,800 leukocytes) were noted. Guinea-pig inoculations with pus from a subcutaneous abscess were negative for tuberculosis. A remission occurred after rest in bed, treatment of general symptoms and toxic manifestations. The patient appeared to be well nourished, and showed no evidence of skin lesions when he left. He died at his home one month later. He had, of course, not recovered from his myocardial disorders. Necropsy was not performed.

The findings in this case apparently emphasize the septic element rather than the tuberculous in such conditions, and is illustrative of the fatal character of the disease, even after the elimination of cutaneous and general symptoms.

PROGNOSIS AND TREATMENT

The prognosis of true disseminate lupus erythematosus is invariably extremely grave. Four of the patients in this series are already dead. Dermatologists of large experience have difficulty in recalling that patients with this disease accompanied by hyperpyrexial attacks and renal complications survive for any considerable period. In view of this extremely grave prognosis, it is permissible to assume some risk in the therapeutic management of these cases. This risk attaches particularly to the removal of pyogenic foci. The extreme reactivity of these patients may result in the disastrous termination of an attempt to interfere with even a minor focus. The extraction of infected teeth should be performed with the utmost caution, with the patient under a strict hospital regimen, and should not, if avoidable, be attempted during a febrile period. Tonsillectomy should be surrounded with equal precautions. The impulse to explore in the presence of abdominal symptoms should be restrained until the case is thoroughly worked out. Treatment of the nephritis should be symptomatic, and should depend largely on the importance of this element in the combined picture which the patient presents.

Iodoform in tablets coated with phenyl salicylate has been used for a number of years with some degree of success. Jadassohn [14] expresses the opinion that careful nursing and hygiene, complete rest in bed and quinin in large doses by mouth probably represent the method of choice at the present time. In some instances the response to all measures is absolutely nil, and the treatment must be directed toward combating symptomatic indications as they arise. The remarkably high temperature which can be maintained by these patients for days, without remission, is a particularly trying feature. Myocarditis, arthritis, enteritis and nephritis may follow one another or combine in a single case, and yet the patient may survive several attacks before the ultimate fatal issue. Bronchopneumonia is a common terminal condition.

My experience in Case 5 resulted in the development of a method of treatment which, so far as I know, has not been tried or reported. After every measure that we could devise had been employed without results, it occurred to me that the patient might, as in Cases 1 and 2, have tuberculous glands that could not be detected clinically. In view of the very beneficial effect of roentgen-ray irradiation on practically all glandular diseases, I decided to treat this patient very much as if he had Hodgkin's disease, theoretically assuming that the cutaneous lesions were the result of a toxic manifestation in the skin, incidental to tuberculosis of the glands. I hoped that the lesions of the skin might disappear as do leukemids, when roentgen rays are applied to the glands in leukemia or Hodgkin's disease. The result was most striking (Figs. 4 and 5). The treatment was repeated in three months. The patient now reports himself in good health, a year following the first irradiation.

CASE 5.—*Acute disseminate lupus erythematosus of the erythema multiforme type.* A man, aged 48, examined July 8, 1921, complained chiefly of burning and itching eruption, sore mouth, diffuse alopecia, marked weakness and loss of appetite. He had had typhoid fever at the age of 21, and rheumatic fever at 26. Examination revealed lesions on the face, neck and hands, of the erythema multiforme type of acute lupus erythematosus. There were maceration and exfoliation of the oral mucous membrane, but there was no distinct bulla, and almost total alopecia of the diffuse type. The urine contained a moderate amount of albumin. The patient was emaciated and exhausted. A severe reaction in the form of arthritis, myositis and stupor followed extraction of one tooth. Various local applications, including superficial roentgen ray, to the lesions were of no value, and no definite improvement followed rest in bed with quinin. Neoarsphenamin aggravated the condition. One dose of filtered roentgen ray was applied to the gland-bearing regions; the next day the patient was better, and had rested at night with less itching and burning of the skin, and less soreness in the mouth. His appetite returned. Six weeks later there was a thick growth of hair on the scalp, and little evidence of the former cutaneous lesions. The patient had gained 25 pounds (11.3 kg). One year later he was well and working (Figs. 4 and 5).

This patient did not respond to the usual methods of treatment, but the application of filtered roentgen ray to the gland-bearing areas caused prompt improvement of all symptoms.

Whether the excellent therapeutic response can be attributed solely to the effect of the roentgen rays on the glands must for the present remain doubtful, since the method must have further trial before its value can be predicted. The exact mechanism of the effect of the rays also remains obscure. In view of the deep-seated nature of the process, permanent cure is, perhaps, too much to expect.

Other patients with lupus erythematosus have been treated in the same manner, and will form the subject of a separate report.

13. Stokes, J. H.: Personal communication to the author.
14. Jadassohn, J.: Lupus erythematodes, Handbuch der Hautkrankheiten herausgegeben von Prof. F. Mracek, Vienna, Hölder **3**: 298-424, 1904.

CONCLUSIONS

1. The clinician should become better acquainted with the systemic symptoms of disseminate lupus erythematosus.

2. Any cutaneous lesion associated with a history of fever and vague abdominal complaints should be exactly diagnosed, even though it appears to be trivial

3. Lupus erythematosus disseminatus must be distinguished from pellagra, erythema mulitforme, erysipelas, dermatitis venenata, eczema, lichen planus, typhoid fever, pneumonia, rheumatism, septicemia and septic endocarditis, and from all diseases presenting vague abdominal symptoms, such as chronic cholecystitis, chronic appendicitis, colitis, and gastric and duodenal ulcers.

4. Renal disturbances, sometimes of a severe type, may be present in this disease, and other symptoms may be inconspicuous.

5. The prognosis of the disease is grave.

6. Tuberculous adenitis is so commonly associated with disseminate lupus erythematosus that it seems to play some part in its cause.

7. An extensive tuberculous adenitis may be demonstrated at necropsy, even though the most careful clinical search, including operative abdominal exploration, has failed to disclose it during life.

8. The sensitiveness of these patients to irritants in general and to the removal of foci of infection in particular is very striking.

9. Foci of septic infection should be removed with the greatest caution.

10. Tuberculin should not be used subcutaneously, either for diagnostic or for therapeutic purposes.

11. The extreme reactivity to the removal of pyogenic foci suggests an allergic phenomenon and not the ordinary response to surgical trauma.

12. Roentgen-ray therapy, directed to the deeper glands after all pyogenic foci had been removed, resulted in striking improvement in one of the patients.

VERY HIGH BLOOD PRESSURE AND CONGENITAL HEART DISEASE

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The types of congenital heart lesion encountered in adult life, for instance, around the age of 40, are of two kinds. The typical congenital heart lesion, with the enormous enlargement in the region of the conus and the marked thrill in the pulmonary region, accompanied by loud systolic bruit heard over all the chest, is usually seen by many physicians, and is recognized by nearly all. There is another type of congenital heart disease that is much more obscure and the existence of which some people doubt. We find, in some of these cases, a very high blood pressure, with a right ventricular preponderance. In these, no definite inference can be drawn from what is heard on auscultation.

When a person with a blood pressure of 240 or thereabouts gives a history of many years of circulatory difficulty, we should expect to find with our fluoroscope a very large left ventricle and the usual picture of long standing cardiovascular renal disease. In the type of congenital heart disease to which I refer, there is no important renal involvement. The heart structure occupies the center of the chest, and is usually elongated. There is a suggestion of prominence in the region of the pulmonary artery. I have come to the conclusion that it represents a late stage of infantile heart and that the high blood pressure is a systemic compensatory blood pressure relating to the high blood pressure in the pulmonary circuit.

One person presenting this syndrome had been the subject of most elaborate observations in various institutions and resorts, and had been much frightened by uniformly bad prognosis. Since his condition has been recognized as a physiologic variation of a type of congenital origin, this man has lived comfortably for several years. Up to the present time, he has been on a regimen planned chiefly to maintain his general muscular strength. His blood pressure has not varied, always registering from 240 to 260. He has a son with a heart of the same type.

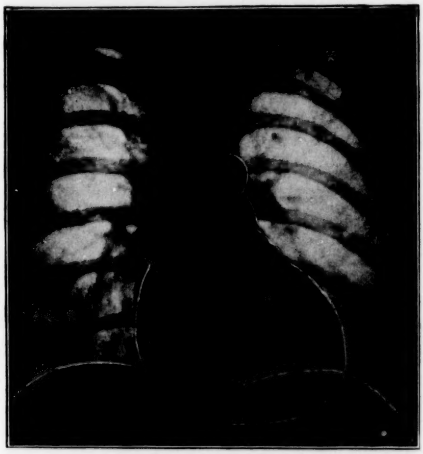


Fig. 1.—Outline of heart as revealed by the orthodiagraph: The heart is not enlarged, as would be expected with high blood pressure.

In the infinite number of human beings, a variation in type of structure of the circulatory system is reasonably to be expected. I am convinced that there is such a variation in type involving a right predominance, and, that, later in life, a higher blood pressure usually appears, without any definite disease. It is not a common type.

In a practice devoted exclusively to cardiac disease, these patients appear now and then. They present, in different degrees: (1) a very high blood pressure in a person with none of the usual causes, such as defective kidneys or hardening of the arteries; (2) an anomalous finding in the orthodiagram and electrocardiogram, and (3) a remarkably slight inconvenience from the very high blood pressure, e. g., 230.

I have spoken of this condition once or twice, although my experience with it is extremely limited.

REPORT OF CASES

Miss A. P. M. was seen by me in consultation, and I suggested a probable congenital lesion of the heart, giving the opinion that the high blood pressure was due to that and no other disease. I predicted that the orthodiagram and also

the electrocardiogram would be anomalous, and that the electrocardiogram would show right preponderance. The prediction of the right preponderance in a patient with a blood pressure of 230 was a fairly bold venture. Subsequent technical examination confirmed my prediction.

The patient, when first seen by me, was sick in bed, complaining of marked shortness of breath and nervousness. She had severe headache and palpitation. She had been in bed with this complaint for two weeks, without improvement.

Five years previously, there had been a similar attack, which kept her in bed for six weeks; but between these two attacks she had been able to go about, with little discomfort. She was told that she had a high blood pressure and a disease of the heart valve. The present attack, she thought, was brought on by a period of overwork and nervousness. Her physician had been giving her digitalis, which on my recommendation was stopped, and she was put on bromids, given three times a day. She improved under this treatment, and was able to come in to my office a month later, at which time the orthodiagram (Fig. 1) and the electrocardiogram (Fig. 2) were taken. The heart was only a little enlarged, and there was a harsh systolic murmur on the apex and all over the heart, loudest at the aortic area. The aortic second sound was markedly increased. The blood pressure was 235 systolic, but 130 diastolic. The pulse rate was 90 and irregular, owing to sinus arrhythmia and premature beats, as the electrocardiogram showed.

COMMENT

The importance of recognizing the condition lies in the fact that the patient must not be treated as an invalid, but must be allowed to lead a normal life, as far as her strength goes. The benefit of this treatment was evident in an improvement as soon as a rational plan of living was instigated and the fear of heart failure was put aside.

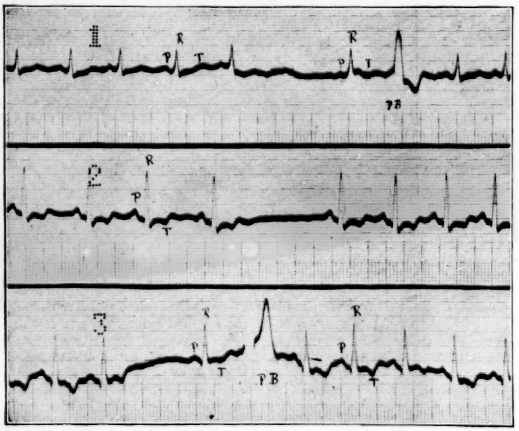


Fig. 2.—Sinus irregularity, denoted by long pauses between some of the beats, sometimes as long as 1.40 seconds, and the frequent variations in the intervals between the other beats; ventricular premature beats starting from the left ventricle are present after some of the long pauses. They are marked *P B* in Leads 1 and 3.

109 East Sixty-First Street.

Typhoid Fever in World War.—There was less than one case of typhoid fever during the World War to each 94 cases during the Civil War, and to each 140 cases during the Spanish-American War and Philippine Insurrection.—(A. G. Love, *Military Surgeon*, August, 1922.)

Clinical Notes, Suggestions, and New Instruments

RETICULAR KERATITIS: REPORT OF A CASE

ELTON S. OSBORNE, M.D., SAVANNAH, GA.

In the case here reported, the malarial parasite appears to be the etiologic factor.

A young man, seen in November, who had been working at his trade as a carpenter for several months in various small towns situated near the Savannah River swamps, a malarial section, had had chills and fever, in September, for which he took quinin. Whenever treatment was stopped, the symptoms reappeared, this continuing for two months.

Ophthalmoscopic appearance of reticular keratitis.

Two days before I saw him, he was driving an automobile in the country, and he thought a foreign body had entered the left eye, which suddenly became painful and inflamed, rendering sleep impossible. Examination revealed the conjunctiva of the left eye inflamed, and there was pericorneal injection. There were raised ridges on the corneal surface, having the shape shown in the illustration, the epithelium of which was raised above the corneal level; but there was no denuding of the surface. There was no staining with fluorescein.

The attack lasted more than a week, when the eye returned to normal, developing normal vision, although the vision in the affected eye had been limited to counting fingers during the attack.

The family history was negative. The patient had had only the diseases of childhood, and no previous eye trouble. His appearance indicated that he had lost weight, and he stated that he was 10 pounds (4.5 kg.) underweight. The skin was sallow, with an icteroid tinge, and there was an herpetic eruption on the lips. Ears, teeth and tonsils were negative. The pupils were equal, responding to light and accommodation, and there was no nystagmus. Ocular movements were normal. There was a yellowish tint and injection of the ocular conjunctiva, and pericorneal injection. Ocular tension by a McLean tonometer was 16. The cervical glands and thyroid were not enlarged.

The lungs were normal. The pulse was 101; the blood pressure, 110 systolic, 84 diastolic. The heart was regular and there were no murmurs. The abdomen and external genitalia were negative. The prostate was normal and was not tender, and there was no discharge on stripping.

The malarial parasite present in the blood was probably quartan. The Wassermann reaction was negative. The urine was scant and highly colored. Specific gravity was 1.030. There was no albumin or sugar.

CONCLUSION

It would appear that the malarial parasite was the etiologic factor. There had been a malarial infection for several months, during which time quinin had not been given in sufficient dosage or the administration continued over a long enough period to destroy all parasites. The recovery was prompt on the administration of sufficient quinin, and there has been no recurrence of any symptoms. The daily quinin dosage

is still maintained. The only local treatment was atropin instillations, and the patient was told to wear dark glasses.

19 East Jones Street.

TRAUMATIC LUXATION OF THE HIP IN CHILDHOOD: REPORT OF CASE

DOUGLAS P. MURPHY, M.D., RUTHERFORDTON, N. C.

Hip joint dislocation of traumatic origin in children is rare. When this joint is subjected to undue strain, fracture is the rule in childhood.

Traumatic dislocation of the left hip in a child 8 years old.

Maffei[1] found only forty-nine cases reported in the literature, to which he added three from a series of 1,842 luxations occurring over a period of twenty-one years at the Rizzoli Institute of Bologna. Maffei noted that the posterior luxation was most common, posterior iliac luxation occurring in thirty-three and posterior ischiatic in six cases. Of the anterior, two were suprapubic, one was iliopectoral, and six were obturator. In one case, the type was not given. Thirty-seven occurred in males, and eleven in females. The left hip was injured in twenty-two cases, and the right in seventeen.

Of Maffei's own cases, two were posterior iliac of the left leg, and one anterior suprapubic of the right leg. All were operatively reduced, and were cured. Of the cases recorded in the literature, spontaneous reduction was affected in only one.

REFORT OF CASE

The case here reported is presented because of the rarity of this accident in childhood.

G. C., a boy, aged 8 years, was struck, Dec. 25, 1922, by an automobile, while he was bending over to pick up something. He was brought to the hospital a few minutes after the accident. He had been bleeding at the nose. He was quite excited, and complained of pain in the region of the left hip, which was increased on motion. The left eye was closed, and the lid was discolored and edematous. There was a slight laceration of the lower lip. The left leg appeared shortened, and was flexed somewhat at the thigh and at the knee. It was rotated inward, and motion was limited laterally and in extension. The head of the femur could be felt prominently above and behind its normal position.

1. Maffei, F.: Contributo allo studio della lussazione traumatica dell'anca nell'infanzia, Chir. d. org. di movimento **6**: 604, 1922, reviewed by Brennan: Internat. Abstr. Surg., January, 1923.

Posterior iliac luxation of the left femur was diagnosed with slight concussion of the brain and slight laceration of the lower lip. The diagnosis of posterior luxation was confirmed by roentgen-ray examination, as shown in the accompanying illustration.

The head of the femur was easily returned to its normal position, under light ether anesthesia, without resort to open operation.

SUMMARY

1. Traumatic dislocation of the hip joint in childhood is rare.
2. Males are more frequently affected than females.
3. Posterior luxation is the commonest form.
4. The left hip is affected slightly more often than the right.
5. Operative interference is frequently necessary.

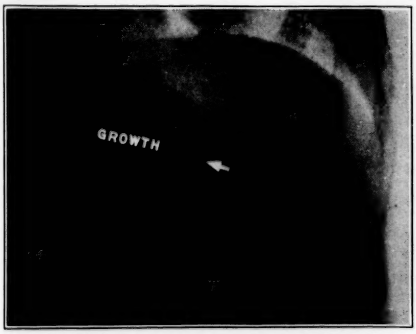
FIBROMA OF STOMACH

J. R. COOPER, M.D., NEW CASTLE, PA.

On account of the rare occurrence of fibroid tumors in the stomach, I thought it would be interesting to report this case. In fact, I have been unable to find any reference to it in the literature I have at hand.

History.—A business man, aged 45, married, was referred to me in September, 1921, by Dr. F. F. Urey for a roentgen-ray examination to determine, if possible, the cause of hemorrhages he was having from the stomach and bowels. About two years before, the patient at times became dizzy, and his stools after these spells were dark and of a tarry consistency. He consulted a number of physicians, but none of them were able to discover the real cause of his trouble. In 1920 his dizzy spells became more pronounced, and he occasionally vomited blood in considerable quantities. His condition then was thought to be ulcer of the stomach or duodenum, but no ulcer history could be secured except the hemorrhages. There was no pain or tenderness before or after eating; his appetite was generally good, and there was no loss of weight. The skin and the general appearance were normal.

Roentgen-Ray Findings.—On making the preliminary fluoroscopic survey before giving the opaque meal, I noticed extending into the gas bubble of the stomach a tumor-like mass about as large as a medium sized orange. It was



Tumor in cardiac end of stomach, extending into the gas bubble.

observed to rise and fall with respiration, and no pulsation could be seen. The tumor, while resembling the apex of a heart, was seen to be distinct from this organ. Its outline could be best observed when the patient held his breath after a medium full inspiration. I felt that we were dealing with a benign neoplasm, as the history of such long standing would rule out malignancy of the stomach. Aneurysm of the abdominal aorta was thought of, but as the Wassermann reaction was negative and no pulsations could be seen, it

was ruled out. To me it resembled a polyp. I then gave the patient a barium meal, but no evidence of ulcer of the stomach or duodenum could be found, and the peristalsis was normal. With the stomach filled with the barium mixture, the tumor could not be seen.

Operation and Result.—In June, 1922, the patient had had a severe attack of dizziness, and vomited a large quantity of blood; he also had passed considerable blood by the bowels. He had been advised at the time of the discovery of the tumor to have it removed; but, as his health was good, he did not heed the advice until this attack, when, becoming alarmed, he went to Rochester, Minn., and was operated on by Dr. Charles Mayo, July 18, 1922. Dr. Mayo wrote me:

"I operated on Mr. H., July 18, 1922, excising a fibromyoma the size of an apple in the cardiac end of the stomach. The tumor was growing from the anterior wall about 1½ inches from the cardia, and I removed it with its base. The opening was closed with two rows of chromic catgut. The pathologic report was fibromyoma with a large ulcer on the mucous surface. This condition is quite a rare one."

The patient is now in perfect health, with no return of his former symptoms.

111 East North Street.

CARCINOMA OF THE STOMACH: REPORT OF CASE, AND EXAMINATION EIGHTEEN YEARS AFTER OPERATION *

JOHN DUDLEY DUNHAM, A.B., M.D., COLUMBUS, OHIO
Assistant Professor of Medicine, Ohio State University College of Medicine

History.—A man, aged 52, an ice dealer, consulted me in July, 1904, for a gastric complaint. The family history was negative, none of his people having died of tuberculosis or malignant disease. He himself had had the diseases of childhood, but no other diseases, and stated that he had never had venereal infection. He was not addicted to the use of tobacco or alcohol.

The illness for which he consulted me began in January, 1904, when the ingestion of food was followed by eructations of gas and sour fluid. Coincident with this was a loss of appetite and inability to perform heavy work. The family physician administered some artificial digestants and regulated the diet, but without benefit. For the preceding four weeks he had occasionally vomited sour, undigested food, but never blood, nor had he observed dark stools. There was no definite history of pain after food.

Examination.—The skin was sallow and the conjunctivae pale. The weight before the beginning of his illness was 175 pounds (79 kg.), and was now 130 pounds (59 kg.). The tongue had a whitish coating. The chest showed normal conditions. There was a small, indefinite, movable tumor to the left of the median line in the epigastrium. The stomach appeared to occupy its usual position. The liver and spleen were normal. An examination of the blood showed a hemoglobin percentage of 50 by the von Fleischl method; a secondary anemia with an increase of leukocytes was shown by stained specimens. The urine was normal. The stomach contents, one hour after an Ewald test meal, showed an absence of free hydrochloric acid and the presence of lactic acid. Food fragments from a meal of the previous night were found. The guaiac test was positive.

Treatment and Course.—A diagnosis of cancer of the stomach was made, and the patient was advised to consult a surgeon without delay, for the purpose of having an exploratory operation performed. This advice was rejected by the patient, who was under the care of another physician, receiving medical treatment from July to Dec. 18, 1904. On the latter date, five months after a diagnosis had been made, he entered Mount Carmel Hospital in the service of Drs. W. D. Hamilton and C. S. Hamilton. The patient had become markedly anemic and sallow in appearance. He had recently vomited coffee-ground material, and had suffered a considerable loss of strength. His weight was 126 pounds (57 kg.). In the epigastrium was a tumor the size of a lemon, quite sensitive to the touch, so that its physical characteristics could not be determined. The hemoglobin was 40 per cent., and there was present a marked secondary anemia.

Dr. C. S. Hamilton operated on the patient, Dec. 22, 1904. The two surgeons reported the stomach to be the seat of a tumor extending from the region of the pylorus along the lesser curvature to its middle. The growth partially closed the pylorus, involving the peritoneum on the anterior gastric wall. Subtotal gastrectomy was performed after the Mayo method, 1 inch of the duodenum being removed, and a posterior gastro-enterostomy with Robson bobbin was done.

Pathologic Examination.—The portion of the pyloric end of the stomach removed measured 12 by 9 by 3 cm. The anterior surface was irregular, extending for a distance of 7 cm. toward the cardiac end. The omentum was attached to this thickened mass. Posteriorly, the surface was smoother, the thickening extending down 5 cm. from the lesser curvature. A hard, irregular, indurated mass occupied the wall of the stomach, except the lower posterior portion, along which was an apparently uninvaded strip. The inner surface was reddened and injected. Erosions and ulcerations were noted. The mucosa could be made out only in the free area.

The photomicrographs[1] and the histologic report were made by Dr. James McIlvaine Phillips, who found the specimen to consist of an irregular block of white tissue, previously fixed and hardened, and brought to the laboratory in alcohol. The block was an irregular mass about 3 cm. long, 1.5 cm. thick, and 2 cm. wide. One surface resembled thickened and irregular mucous membrane, the other serous membrane. The mass of tissue was cut into blocks of suitable size, embedded in celloidin, and these blocks so oriented that the sections cut from them extended from the mucous to the serous surfaces. Sections were then stained in hematoxylin and eosin and, for photography, in alum carmin.

The sections took the stain poorly. The tubular glands in the thickened mucous membrane were enlarged and irregular. In their more superficial portions, the cylindric epithelium lining them consisted mostly of a single layer. In their deeper portions there were several layers, and in some tubules the cells entirely filled the lumen. A few of the tubules were cystic. In many of the tubules the thickened layer of cells lining them infiltrated directly into the surrounding tissue. The epithelial cells were large, and many of them swollen and hazy, being transformed into a material which resembled mucin in staining reaction. The submucosa was thickened and infiltrated with round cells and leukocytes. In places, irregular islands of epithelial cells were seen.

The muscular coats had almost entirely disappeared, and were replaced by masses of epithelial cells, the nuclei in many of which showed karyokinetic changes. Some of these cells contained two or more nuclei. The masses of cells were separated from one another by a very coarse mesh network of fine, loose connective tissue fibers. Very delicate capillary blood vessels were seen in these strands, but none were found among the epithelial cells. Here and there large islands or strands of connective tissue and atrophic involuntary muscle were seen.

The diagnosis, carcinoma of the encephaloid type, was confirmed by Dr. Francis Carter Wood of New York.

Following operation, the patient had a stormy convalescence, but slowly and steadily improved.

Later Examination.—Dec. 4, 1922, the patient, aged 71, appeared healthy, and his digestion was perfect. He ate six times daily, indulging in all varieties of food. The only abnormality noted was occasioned by a feeling of hunger.

CONCLUSION

This case is reported as a plea for more frequent gastrectomy for cancer of the stomach. The patient has everything to gain and nothing to lose by such a procedure.

Probably very few patients have lived eighteen years after an operation for carcinoma of the stomach.

327 East State Street.

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* From the Department of Medicine, Ohio State University College of Medicine.

1. These were reproduced by Dunham, J. D.: New York M. J. **84**: 218 (Aug. 4) 1906.

THE INTRAGASTRIC DETERMINATION OF ACIDITY BY MEANS OF THE CELLULOID CAPSULE

JACOB BUCKSTEIN, M.D., NEW YORK
Consultant in Gastro-Enterology, U. S. Veterans' Bureau

While there may be variations of opinion as to the practical significance of exact quantitative determinations of the acid values of the gastric contents, there can be no doubt as to the value of a qualitative determination of the presence or complete absence of gastric acidity. The absence of free hydrochloric acid may signify malignancy, a marked atrophic gastritis, a benign achylia or complete neutralization with alkalis.

Although the determination of anacidity is thus of great practical value, there are times when the introduction of the stomach tube is not desirable: 1. When a penetrating ulcer is present, the gagging and vomiting occasionally produced by the introduction of the tube may produce a perforation. When an associated malignancy is suspected, one may nevertheless wish to know whether free hydrochloric acid is present or not. 2. In marked asthenia, or when a cardiac complication is present, as well as in the highly neurotic type of individual, the introduction of the tube may be considered undesirable.

In order to avoid the use of the tube, in those cases in which its use is contraindicated or undesirable, I have employed the following simple direct method for the qualitative determination of free hydrochloric acid. I employ the small transparent, indigestible celluloid capsule (size 0 or 00), as previously described.[1] These capsules may be obtained from the Collapsule Company, 122 Hudson Street, New York. A string about 30 inches long is attached to one end. Within the capsule is placed a small strip of Congo red paper. The capsule is then closed. Holes for the communication of fluid are then made by passing a moderately heated hairpin through the coapting surfaces. This small capsule is swallowed for a distance of about 24 inches from the teeth. This will carry the celluloid capsule well within the gastric contents. After several minutes, the capsule is removed. The contained Congo red paper will have turned blue, in the presence of free hydrochloric acid.

With a minimum of discomfort to the patient, this simple intragastric, celluloid capsule method enables us to obtain evidence of real practical value.

1 West Eighty-Fifth Street.

ATRESIA OF THE NIPPLES

O. B. SHEETS, M.D., CARTHAGE, S. D.

I have been unable to find any reference in literature to congenital occlusion of the lacteal openings, and therefore report a case in a primipara, aged 33, whose breasts and nipples showed no apparent abnormality.

Mrs. T. W. gave birth to a strong, vigorous boy of 8 pounds (3.6 kg.). The puerperium, as the labor, was uneventful except at the beginning of the third day, when she began to complain of her breasts. Examination disclosed them to be tender to touch, and moderately engorged. The pulse and temperature were normal. At this time the baby became fussy, and at feeding intervals would nurse ravenously with no apparent satisfaction. On the fourth day the mother complained bitterly at these nursing periods, and a second examination revealed the breasts to be very large, tense and painful. There was no local heat or infiltration. The temperature remained normal; the pulse became slightly accelerated. The condition being one of extreme engorgement, effort was made to relieve the breasts, first by expression, then by pumping, with the rubber bulb and the vacuum pump, breast pumps, and finally by having the husband suckle the breasts. None of these methods gave any lacteal secretion. As the trouble seemed to be wholly with the nipples, the breasts were punctured under surgical precautions through the nipples with a 28 gage hypodermic needle on an aspirator, and a quantity of milk was secured. Before the breasts were emptied, two more openings were made, or three through each nipple, each being located with a staining agent. With the third puncture the breast was partially relieved, and the baby applied, with apparent satisfaction to himself and alleviation to the mother. Subsequently these apertures were probed with a No. 1 Bowman probe previous to each nursing for the first thirty-six hours; then less often, with a gradual increase in the size of the probe up to a No. 6 Bowman, thereby securing free lacteal orifices by the end of the fifth day of treatment.

1. Buckstein, Jacob: Direct Determination of Lipase Within the Small Intestine, J. A. M. A. **79**: 1766-1767 (Nov. 18) 1922.

Special Article

THE CARE AND FEEDING OF INFANTS

(Continued from page 475)

[NOTE.—This is the eighth of a series of articles on the care and feeding of infants. It is addressed to the general practitioner rather than to the pediatric specialist. When completed, the series, somewhat elaborated, will be reprinted in book form.—ED.]

GOAT'S MILK

Goat's milk is pure white, without especially pronounced odor or taste. There may be a peculiar "goaty" taste and unpleasant odor to the milk, but this can be entirely avoided if the milk is properly produced and handled, that is, by preventing manurial pollution, by keeping male goats out of and away from the stable in which the milking is done, and by taking precautions to keep the udder clean.

There is no essential chemical difference between the constitution of goat's milk casein and that of cow's milk.[19] The casein coagulum forms a more compact, firm mass than does that of the bovine.

Because of the similar chemical composition, goat's milk may be modified, like cow's milk, for infant feeding.[20] The protein content is considerably higher than in human milk, the sugar considerably less. The fat varies from 2.5 to 7.5 per cent.,[21] generally a little higher than that in cow's milk. The butter fat is white, there being a minimum of pigment.[22] The fat rather closely resembles the fat in human milk. The fat globules are relatively small, in very fine droplets,[23] and of uniform size. Ninety per cent. of the fat globules of cow's milk are over 4 microns in diameter; in goat's milk only about 10 per cent. are over 4 microns, and often 50 per cent. are under 2 microns.

The fat globules rise slowly, and in most cases no cream layer is formed. The cream is separated with difficulty by centrifuging,[24] but may be thoroughly separated in a cream separator. Goat's milk fat is richer in insoluble volatile acids than cow's milk fat; but, on the whole, there is very little difference when the chemical composition of the two fats is compared.[25]

In regard to the salt content, goat's milk differs[26] from cow's in containing tricalcium phosphate, dimagnesium and trimagnesium phosphate, monopotassium phosphate, and no monomagnesium or dipotassium phosphate. Human milk contains no insoluble phosphates. Goat's and cow's milk contain more phosphorus

19. Calvin, J. K.: Arch. Pediat. **38**: 584 (Sept.) 1921.
20. Griffith: Diseases of Infancy and Childhood **1**: 109, 1919.
21. Lieth: Milchztg. **14**: 449, 1885.
22. Schaffer: Schweiz. Wchnschr. f. Pharm. **31**: 58.
23. Barbellion: Verhandl. f. Kinderh. **13**, 1900.
24. Heineman, P. G.: Milk, Philadelphia, W. B. Saunders Company, 1920.
25. Solberg: Jahrb. f. Thierchem. **25**: 214.
26. Bosworth and Van Slyke: J. Biol. Chem. **24**: 173, 177 (March) 1916.

than human milk. There are more chlorids in goat's than in human or in cow's milk. The different salts appear to be greatest in number in goat's and least in human milk. McLean[27] asserts that goat's milk contains more iron than cow's milk.

Yield.—In proportion to its body weight, the goat produces about twice as much milk as the cow. The goat may yield from ten to twelve or even fifteen times its body weight in milk yearly, while a cow yields five or six times its weight.[28] By good feeding, 800 kg. or more (from 600 to 1,100 liters) of milk may be obtained in a year. A year-old goat will produce from 300 to 700 liters a year.[29] Goats usually provide milk about six months out of a year, and a lactation period ranging from seven to ten months is considered very satisfactory. A good scrub or common goat will yield about 2 quarts (liters) of milk a day,[30] and a production of 3 quarts a day is considered excellent. However, a good grade Toggenburg will produce from 3 to 4 quarts, and some pure-bred Toggenburgs will run from 5 to 7 quarts a day.

If goat's milk is aseptically obtained, it is the most suitable substitute for breast milk, since it has not been exposed to the possibility of changes, has not lost its natural properties, and can be given raw.

Another advantage of goat's milk is that it cannot be skimmed, as the cream does not form a distinct layer.[31]

Goats are practically immune to tuberculosis.[32] Only from 0.4 to 0.6 per cent. of the goats in Prussia gave a positive reaction for tuberculosis.[24] The question of the transmission of a passive immunity to tuberculosis by the transfer of natural antibodies from goat's milk to very young infants, or from the use of this milk over a much longer period, is now being investigated. At present the results are incomplete.

From some very limited data it might appear that goat's milk is considerably higher in antiscorbutic properties than cow's milk. Moore states that six guinea-pigs weighing from 110 to 145 gm. each were fed on fresh goat's milk, one set for eighty days, a second for forty-four days. The animals developed normally with no clinical symptoms of scurvy, although similar experiments with cow's milk resulted in scurvy.

CERTIFIED MILK

The term "certified milk" should be limited to milk produced in accordance with the requirements of the American Association of Medical Milk Commissions.[33] The expressed desire of the dairyman to contract to produce clean milk is far from sufficient for public protection. Only by periodic inspection by representatives of the local authorities, such as city, state or special commissioners, can a supply of wholesome milk be continuously assured. Sanitary stables and proper handling of the cows, with milking into sterilized receptacles are prime essentials. The cows must be in good health, free from tuberculosis and other infectious diseases. All persons coming in contact with the milk must exercise scrupulous cleanliness and must be free from infections which might be conveyed to others through the milk. All of these precautions can be nullified by carelessness in handling the milk, either at the farm, during transportation or in the home. Certified milk must have a minimum bacterial content, and should never be more than thirty-six hours old when delivered.

Certification must be denied all milks having, on repeated examination, a bacterial count exceeding 10,000 per cubic centimeter. Such examination should be made at least once a week. Of even greater importance than the number are the types of bacteria found in the milk. The milk from all sick cattle and those with open wounds must be excluded. Employees suffering from infectious diseases which may contaminate the milk must be quarantined, and if contagious diseases occur on the premises of a certified dairy, the customers should be notified so that the milk may be sterilized in the home if the commission shall deem it wise to allow the milk to be delivered. In case of doubt, the dairy should be temporarily stopped from further deliveries. The milk must be cooled immediately after being secured, and maintained at a temperature between 35 and 40 F. until delivered.

Many good milks are spoiled on the door-step of the home between the time of delivery and of placing the milk in the icebox. All the utensils and vessels used for preparing the mixture must be clean and sterilized by boiling. As soon as the mixture is prepared, it should be put into the icebox again and kept there, preferably in individual bottles containing single feedings.

PASTEURIZED MILK

Pasteurization is accomplished by heating milk for a definite length of time, varying according to the temperature to which the milk is heated. The "holding method" whereby the milk is heated to not less than from 140 to 150 F., (60 to 65 C.) and is kept at this temperature for at least twenty minutes, is probably the most efficient for commercial purposes. Pasteurization in the home is well accomplished by one of several simple pasteurizers obtainable in the market. Similar results may be obtained by placing milk in the inner vessel of a double boiler with cold water in the outer vessel. The water is then heated to 160 F., and the milk is allowed to stand in its receptacle in a warm place for twenty minutes, following which it is rapidly cooled in a good icechest, where it should be kept until the time for reheating at feeding periods. If a similar method is desired for pasteurization in individual bottles, they should be placed in a pail, and water added to a level above the milk contained in the bottles, after which the water is heated to 160 F. The pail is then removed from the stove, covered, and kept in a warm place for one-half hour, after which the milk is to be rapidly cooled in a good icebox. It should be remembered that the bottles must be properly stoppered.

Scalded Milk.—The milk is heated in an open vessel until it bubbles around the edges and steams in the center. By this means it is heated to temperatures varying from 165 to 185 F. Scalding is not boiling.

Boiled Milk.—Milk may be boiled in either a single or a double boiler. With a single boiler, the milk is heated to the boiling point and allowed to boil from three to five minutes, with constant stirring. With a double boiler, the milk mixture in the inner and cold water in the outer vessel, the water is brought to the boiling point and kept boiling for from six to eight minutes; the whole process requires from ten to twenty minutes. Following the heating, cold water should be substituted in the outer vessel, and should be renewed several times until the milk cools. The milk is then

27. McLean: Ztschr. f. Kinderh., Orig. **4**: 168, 1912.
28. Fleischman: Lehrbuch der Milchwirthschaft. **2**: 65, 1898.
29. Kohlschmidt: Jahrb. f. Thierchem. **30**: 254, 1901.
30. Rosenau: The Milk Question, New York, Houghton, Mifflin Company, 1912.
31. Kochen: Steinegger, Milchztg. **27**: 356, 1898.
32. Richter: Berl. klin. Wchnschr., 1888, No. 18.
33. The standards are given in the literature of the American Association of Medical Milk Commissions.

put in small sterilized bottles for individual feedings, or in one large bottle, capped, and placed on ice. While milk heated in a double boiler forms a much finer and softer curd than that of raw milk, it is not so fine as the milk boiled directly over the flame. It does, however, answer the needs in most cases, and, because of the simplicity of the method, is preferable.

RAW MILK VERSUS HEATED MILK

Whatever opinion one may have as to the advisability of recommending heated milk rather than raw milk for infant feeding as a general practice, it must be recognized that the earlier teaching in America concerning raw milk feeding led to the production of certified milk, with a resulting decrease in infant mortality. However, it should be emphasized that any method of food preparation which may tend toward an erroneous feeling of security is to be avoided. This applies particularly to milk production, as it is obvious that unclean milk cannot be considered a safe food for infants, even though it is pasteurized or boiled.

Raw Milk.—In large communities, certified milk from properly inspected dairies is the only milk which may be fed raw with any feeling of safety. During the warm months, even certified milk should be pasteurized or boiled in the home. In small communities, when the milk has been produced under sanitary conditions and reaches the home a few hours after milking, it may be safely used. When there is any doubt as to the quality of the milk, it should be heated.

PASTEURIZATION VERSUS BOILING

The ardent advocates of pasteurization claim that it is essentially a raw milk, so far as concerns its physiologic properties. Our experimental studies have shown that when milk is allowed to stand for some time after pasteurization, even though the vitamins are not completely destroyed, its antiscorbutic value is less than that of fresh raw milk. Therefore the relation of the time of pasteurization to the hour of feeding is important. Proper pasteurization destroys most organisms except the spore bearers. Fortunately, this includes the majority of the ordinary pathogenic bacteria. One disadvantage is that most of the lactic acid-producing bacteria are destroyed, and, therefore, the milk fails to sour, or sours less readily than unheated milk. This may give the mother a false feeling of security. In most instances, however, some of the lactic acid-producing organisms, having a high thermal death point, survive the heating and thereby lead to souring in old milk. While commercial pasteurization, therefore, has its disadvantages, on the whole its use has accomplished much in the lowering of infant mortality.

Boiling in the Home.—This has the great advantage over commercial pasteurization in that if the raw milk has soured before it reaches the home, the housewife can readily detect it. However, it is to be remembered that many pathogenic organisms may develop in milk without giving any evidence of their presence; and, while the organisms themselves are in most instances destroyed by boiling, their toxic products are not thus removed.

The small flocculent curd of boiled milk is more easily digested than the large, tough, casein curds of raw milk. This is of distinct advantage in indigestion and diarrhea and in atrophy, as larger amounts of food and a more highly concentrated mixture can be administered. Boiling, therefore, effectually disposes of the majority of bacteriologic problems, and is an excellent casein modifier. While some of the lactalbumin is coagulated, small amounts of the sugar are caramelized, and some cream and salts are lost in the scum the advantages of this method outweighs its shortcomings.

In feeding boiled milk to infants, the danger of the development of rickets and scurvy can be positively obviated by the early addition of cod liver oil and orange juice to the diet. A tendency to constipation develops, owing to the more complete digestion of the fine curds in the small intestine and the absence of the large, hard protein curd seen with raw milk feedings; but this can usually be counteracted by adding carbohydrates to the mixture. *Duly considering all these facts, we believe that whenever there is any doubt as to the quality of the milk supply, the method of choice is boiling in the home, preferably by the double boiler. This should also apply to the reboiling of pasteurized milk whenever doubt exists as to its quality.*

FROZEN MILK

Vomiting and not infrequently diarrhea follow the feeding of milk that has been frozen. So far as possible, it is better to avoid the use of milk of this type. As this is not always possible, such milk should be boiled before being used in the feeding mixture. In most instances, the changes are in all probability physical, for in the freezing of the water the emulsion breaks and the fat becomes separated. When the milk is thawed, the fat globules coalesce and form a thick layer of butter fat which may cause a gastric and intestinal upset. Milk that has been frozen is less likely to show changes in the fat emulsion if the process of thawing goes on slowly in a cool room.

Pennington [34] and her collaborators also found that changes occurred in the protein of milk that was held for a considerable period at a temperature of 0 C. These changes resulted in proteolysis of the casein and of the lactalbumin.

(To be continued)

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

DIPHTHERIA TOXIN-ANTITOXIN MIXTURE (See New and Nonofficial Remedies, 1922, p. 282).

Eli Lilly & Company, Indianapolis.

Diphtheria Toxin-Antitoxin Mixture Lilly.—Each cubic centimeter constitutes a single human dose containing three L + doses prepared in accordance with the requirements of the U. S. Public Health Service. Marketed in packages of three vials, sufficient for one immunizing treatment, each vial containing 1 Cc. of the toxin-antitoxin mixture.

DIPHTHERIA IMMUNITY TEST (SCHICK TEST) (See New and Nonofficial Remedies, 1922, p. 320).

Eli Lilly & Company, Indianapolis.

Schick Test.—Marketed in packages containing one vial of diphtheria toxin sufficient for ten tests and a vial filled with sterile physiological solution of sodium chloride, and in packages of ten vials (hospital size) containing toxin sufficient for 100 tests and ten vials filled with sterile physiological solution of sodium chloride. Each dose consists of approximately 0.001 Cc. of toxin (0.2 Cc. of the diluted toxin) which is equivalent to 1/40 of a minimum lethal dose for a guinea-pig of 250 Gm. weight. As a means of control, the Schick test control, representing diphtheria toxin of the same lot heated sufficiently to destroy the specific exotoxins, is supplied.

34. Pennington, Hepburn, Witner, Stafford and Burrell: J. Biol. Chem. **16**: 331, 1913.

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SATURDAY, FEBRUARY 24, 1923

THE ACTION OF HYPERTONIC SALT SOLUTION

Human curiosity demands an explanation not only of the customary manifestations of nature but also of the phenomena that can be brought about by artificial means in an empiric way. In medicine, this scientific inquisitiveness is widespread and eminently desirable. Few physicians are content to carry out a therapeutic procedure that is traditionally employed in practice year after year without giving occasional thought to its rationale. With the knowledge of how to secure a result comes the desire to know what causes it and why. A number of American clinicians, impressed by Weed and McKibben's [1] demonstration that the intravenous administration of hypertonic salt solution to animals was attended by a decrease in the size of the brain and a fall in cerebrospinal pressure, have attempted to apply it to clinical practice.[2] The impression has been created that the effects are often sufficiently satisfactory to warrant the employment of the procedure as a therapeutic measure. It is said that as the result of such injections cerebral hernias often disappeared or were much diminished, the swollen brain decreased in size so that operations on it could be performed more easily, and the elevated cerebrospinal pressure of patients with brain tumor was usually reduced promptly. A recent study of the effect of hypertonic salt solution, administered intravenously to a number of patients with brain tumor who had an increased cerebrospinal pressure, shows that symptomatic improvement occurred in all. This was mainly manifested in the relief of headache and stupor. No harmful effects were observed. It appears likely that the fall in cerebrospinal pressure that follows the intravenous or oral administration of hypertonic salt solution is a volume change dependent on the egress of fluid from the brain to the blood stream.

The immediate effect of the introduction of hypertonic saline solutions, for example, 100 c.c. of 15 per cent. sodium chlorid solution into the circulation, is the production of a hydremic plethora because of the withdrawal of water from the tissues, the brain being only one of the sites of this diffusion. In a study made at the Massachusetts General Hospital, Barach, Mason and Jones [3] have fixed the responsibility for this on the increased chlorids brought by injection into the blood. The body at once responds, in an effort to render the plasma isotonic again, by pouring water into the blood stream until the osmotic equilibrium is attained. The increase in blood volume usually parallels the blood chlorid concentration. The physics of the reaction is what might be anticipated. In the Boston cases the red corpuscles showed no impairment due to the introduction of hypertonic sodium chlorid solution. In one case there was a temporary lessening of fragility. The oxygen-carrying power of the hemoglobin was intact. There was no free hemoglobin spectroscopically, and no increase in bile pigment. The story is another instance of the benevolent devices of physicochemical regulation in the body.

ANEMIA IN CHRONIC NEPHRITIS

Most physicians think of chronic nephritis as essentially a kidney disease, which, in the narrower sense, it is. The prominent symptoms are those immediately attributable to the profound disturbance in the renal functions. The changes in the composition and character of the urine cannot fail to direct attention specifically and emphatically to the kidneys. Structural elements of various sorts are usually present in the secretion of these organs, and the normal constituents of the urine are likely to be diminished in quantity. Retention is a common manifestation. What the etiologic factors may be has been the subject of considerable divergence of opinion. The greatest emphasis has probably been placed on toxic agents, such as poisons which bring about a slow chronic intoxication, or products of endogenous origin that may work quite as insidiously and dangerously. Toxins derived from bacterial sources in the organism have been accused, and the severe reactions from exposure to unfavorable environments have not been overlooked in the explanations recorded.[4]

Brown and Roth [5] recently emphasized that chronic nephritis should be viewed from the standpoint of a constitutional disease. Renal injury is only one phase of this widespread toxic damage. The retinal, cardiac and vascular tissues, and hematopoietic system are also definitely injured. They reached this conclusion from

1. Weed, L. H., and McKibben, P. S.: Am. J. Physiol **48**: 512 (May) 1919

2. Cushing, Harvey, and Foley, F. B.: Proc. Soc. Exper. Biol. & Med. **17**: 217, 1920. Sachs, Ernest, and Belcher, G. W.: The Use of Saturated Salt Solution Intravenously During Intracranial Operations, J. A. M. A. **75**: 667 (Sept. 4) 1920.

3. Barach, A. L.; Mason, William, and Jones, B. P.: The Effect of the Administratjon of Hypertonic Salt Solution on the Blood Volume and Certain Related Blood Constituents, Arch. Int. Med. **30**: 668 (Nov.) 1922.

4. A discussion of the subject is given by Strauss, H.: Die Nephritiden, Berlin, Urban and Schwarzenberg, 1920.

5. Brown, G. E., and Roth, G. M.: The Anemia of Chronic Nephritis, Arch. Int. Med. **30**: 817 (Dec.) 1922.

a study of the anemia so commonly associated with the disease. According to these investigations of cases in which no blood loss had occurred, excessive hemolysis could not be called on to explain the lack of red cells. The probability thus remains that the anemia attending the renal insufficiency is due to decreased formation of erythrocytes incident to damaged function of the bone marrow. The latter is disturbed in common with other tissues.

As both Brown and Roth view it, accumulating evidence in chronic nephritis points to primary vascular injury of widespread, not merely renal, distribution; and the bone marrow tissues reveal secondary effects of vascular disease. The unknown agent causing renal insufficiency, they add, is probably the etiologic factor in the disturbance of hematopoiesis; in other words, a common cause is present. After repeated injuries to the bone marrow, anemia becomes more severe and takes on certain characteristics of a hypoplastic or aplastic type of anemia. The injury to the bone marrow concerns only its erythrogenic function. Leukocytogenesis is not involved. It is further pointed out that the latency in the development of the anemia can be explained on the basis of its bone marrow origin. The circulating erythrocytes are not destroyed. Excessive hemolysis is not present. The normal replacement of erythrocytes is slower after injury to the bone marrow. As the circulating cells die and replacement is slow, a lapse of time is natural before anemia is evident.

WAR AND ANATOMY

The Iliad and the Odyssey have recently been used as an index of anatomic knowledge in Homeric times. Körner [1] has found 147 descriptions of war wounds in the classic tale of high endeavor and protracted suffering resulting from the celebrated triangle that brought the hosts of Agamemnon before the walls of Troy. Special emphasis is laid on perforating wounds, in which the points of entrance or exit are given and intervening injured organs named; in one case, for example, a fleeing ex-combatant intercepted a spear in the upper gluteal region which made its reappearance below "the bone," presumably the os pubis, passing through the bladder. In another instance, a braver but less wise warrior, indiscreet enough to oppose the unmasked Odysseus, received the long suffering one's winged shaft in the breast, the arrow sticking in his liver, a localization signifying to Körner that the epic bard was a good enough topographic anatomist to place the dome of the liver some distance above the costal margin. From such references, Körner feels justified in concluding that Homer's knowledge of anatomy rested on a surer foundation than analogy with slaughtered animals and haphazard observations made in the treatment of war wounds, for spear laparotomies and ax amputations do not afford a sufficiently clean and wide field for accurate inspection. He believes, then, that Homer's information must have been based on deliberate dissection by physicians of the day, perhaps by the field surgeons. Fuld [2] has opposed Körner's conclusion, under the title "Prähomerische Sektionen?", confident that the human sacrifices of that barbarous time, and the not far distant cannibalism, furnished foundation enough for the meager Homeric details.

To a nonpartisan reader lenient to the vagaries of poetic license, Körner's anxious analysis of certain supposedly erroneous anatomic concepts of the Greek poet seems superfluous. He does not need to be convinced, by a passage locating the godlike Sarpedon's heart correctly in the pericardial sac, that the Achean confidant of the muse had no intention of situating the liver there likewise in a passage that seems to read to the contrary unless translated with great care. He will be inclined to believe that most of the grosser relations of the human viscera were known to the layman at that remote period somewhat as they are today, and without organized dissecting courses or sub rosa necropsies in a period of priestly control and pious regard for the dead. To this knowledge many sources contributed. And, after all, not the least of these was battle-field experience. For whatever may have been the effect of theological proscription in checking the mutilation of his fellow citizen in times of peace, no religious considerations restrained the Homeric hero from making mince meat of his enemy in the white heat of passion, if he was able and so desired. Witness the fate of the unfortunate goatkeeper Melanthius, who suffered the loss of his nose, ears, hands, feet and "parts of shame" following his careless underestimation of Odysseus' prowess in the battle in Penelope's hall. Many another hexametered catalogue of horrors could be cited.

Although a more generous spirit regarding the dissemination of knowledge may prevail today, it is unlikely that curiosity concerning anything so close to a savage's happiness as his own body could remain restrained through the long centuries before the Renaissance swept aside fear and hide-bound convention, and fired the intellectuals to blaze new trails. Long before that, when an extensive anatomic material was available, some one must have looked at it, and it is not to be doubted that he told a few friends what he found. But with a limited comparative anatomy, in the absence of developed embryology and physiology, knowledge based on understanding was impossible, and anatomy could make but feeble strides. It remained a mere catalogue, and must have been of about the same interest. One cannot help thinking of instances of modern seizure of opportunity. For instance, there is on exhibition a product of the war of our civilization, where culture offers no bar to minute investigation, and where a dozen related sciences contribute to mutual understanding. In Aschoff's Institute of Pathology in Freiburg, in the

1. Körner: München. med. Wchnschr. **69**: 1484 (Oct. 20) 1922.

2. Fuld: München. med. Wchnschr. **69**: 1731 (Dec. 15) 1922.

same room holding the collection of war injuries of 1870, there is a large exhibit of chests of tuberculous soldiers, freed from overlying soft parts, with the anterior half cut away, and with the roentgenogram, taken a few hours before death, hanging over the specimen, uniting clinical experience with pathologic detail. Surely here is method, backed by a wealth of scientific knowledge. But it is doubtful whether the spirit of curiosity behind it exceeded that of the ill-equipped ancients, whose slow but effective search for anatomic accuracy was long past its crude beginnings even in that far remote time when Abner was returned to Hebron, and Joab took him aside to speak with him quietly and smote him in the fifth intercostal space.

"FITNESS" IN DISEASE

The Census Bureau's summary of the annual report on mortality statistics reveals that 1,142,558 deaths occurred in 1920 within the death registration area of the continental United States, or among 82 per cent. of its population. For the entire group of states it may therefore be estimated that 1,400,000 persons die each year. Not all of these are aged; discussions of national vitality therefore stress the great importance of saving some of the lives lost. It has been alleged that this involves a preventability of 42 per cent. The health conservation programs which are so earnestly concerned with the prevention of untimely death often fail to take into account the fact that national efficiency is not necessarily coincident with national "vitality." Many lives may be prolonged through a period of economic uselessness.

The question under discussion is one that frequently concerns the physician. He is often called on to evaluate the physical fitness of a patient; it may become a necessity in order to assign the latter to some appropriate form of activity or to protect him from strains that would be detrimental to health. Finding the right job—the proper place in society—for a person under par is likely to become one of the numerous problems that measure a physician's service and worth in the family and in the community. It is obvious that if the strength or endurance of any worker consistently falls much below the standard for the task to which he has been assigned, the outcome will be unfortunate; on the other hand, as Lee [1] pointed out in a war-time message, if his strength is markedly greater than that of his task, he is not economically placed. Vocational fitness is always a desideratum.

What is obviously needed is a suitable measure of deteriorated functions. Objective proof is usually far better than the most judicious impressions of a physician or friend. Unusual interest attaches, therefore, to psychologic tests that were applied to a group of Joslin's diabetic patients in Boston by Miles and Root [2] of the Nutrition Laboratory of the Carnegie Institution of Washington. The results showed objective justification for the complaints of loss of memory and of ability to concentrate attention mentioned frequently by persons suffering from diabetes. The old and well established mental associations, such as are involved in doing simple addition of numbers, seem little influenced. But new tasks which demand immediate retention and recall, with little reference to past experience, are the ones which suffer and at which the patient finds himself below his former ability. There appears to be no marked increase in the errors the diabetic makes in his work as compared with the normal person, but rather a loss of speed, a decrease in the span, or amount that can be grasped at one time. That the change is chiefly in the nature of a retardation of the neuromuscular processes is indicated by those tests which more especially involve the muscles. In these, Miles and Root have found that the eye requires more time to turn and to react; that the fingers cannot make as many taps in a given interval, and that the hand cannot so accurately pursue a moving object. To what extent this retardation may be due to discouragement or mental depression, on the one hand, or specifically to the diabetes, as such, on the other, it is impossible to state. Miles and Root add that there is clear evidence that, with treatment, most of the persons tested showed rapid improvement on the psychologic side. The conclusions of these investigators will awaken widespread interest. They say that while memory span and muscle movement speed are of fundamental importance for the activities of life, there is a rather wide margin, and undoubtedly many persons with diabetes will be able to do as much light physical or mental work as is actually done by many normal men and women. In other words, "while the diabetic is not at all fitted for racing in top notch competition, still he is fairly well off for living comfortably and usefully." It will be of great value to secure additional studies of "fitness" on patients with other diseases.

INTESTINAL ANTISEPSIS

There is a widespread belief that, through bacterial changes in foods present within the alimentary tract, substances can arise that possess a harmfulness or toxicity of varying intensity for the organism. Clinical observations and personal experience serve to fortify this prevalent view, even though they cannot be said to constitute valid scientific evidence. Excessive intestinal putrefaction or the retention of the intestinal contents is frequently responsible for upsets in health varying from slight malaise to profound disturbance of well-being. Wells [3] has summarized the situation cogently

1. Lee, F. S.: The Human Machine, New York, Longmans, Green & Co., 1918.

2. Miles, W. R., and Root, H. F.: Psychologic Tests Applied to Diabetic Patients, Arch. Int. Med. **30**: 767 (Dec.) 1922.

3. Wells, H. G.: Chemical Pathology, Philadelphia, W. B. Saunders Company, 1920, p. 593.

by remarking that few of the known products of gastro-intestinal putrefaction are toxic to any considerable degree, and these are probably produced in too small quantities to cause any appreciable effect, especially in view of the detoxicating and eliminatory powers of the liver, kidney and other organs. Nevertheless, the names of the diseases that have been attributed to intestinal toxemia are legion.[4] Autointoxication, whatever it may mean, still finds advocates of its etiologic importance in human disorders.

One consequence of this large and seemingly justified interest in the production of poisonous bacterial products in the bowel and their subsequent absorption leading to harm has been the effort to prevent their formation. This led long ago to a variety of efforts to administer so-called intestinal antiseptics. The problem was reviewed in THE JOURNAL several years ago by Harris,[5] working under a grant made by the Therapeutic Research Committee of the Council on Pharmacy and Chemistry. As is pointed out in the Pharmacology of Useful Drugs,[6] there can be no doubt that the nature and character of the infection, its location in the intestinal tract, and the condition of the intestinal mucous membrane and its secretions, as well as the food residues in the bowel, must all influence the results of any efforts at intestinal antisepsis. It is not certain that absolute asepsis of the intestine is desirable, though it is unquestionably desirable to restrain the growth of putrefactive and other pathologic organisms. Some of the reasons for the popular use of certain purges, notably calomel, are their alleged action as an intestinal antiseptic. Fantus[7] reminds us that calomel is now generally admitted not to be an intestinal disinfectant, nor has its action as an intestinal antiseptic been definitely proved. Whatever benefit is derived from the use of the drug is doubtless due to the resultant purgation rather than to any direct effect on the growth of microorganisms in the bowel.

Recently a group of Chicago investigators[8] has put the possibility of securing intestinal antisepsis by the use of drugs to a severe test under conditions readily controlled and in which any effect would be readily manifest. The procedure was based on the fact that death from intestinal obstruction is due to a toxemia. It has been demonstrated[9] that the toxic materials are produced in the intestinal tract by the action of the normal intestinal bacteria on the intestinal contents. The symptoms can be reproduced in dogs by the production of closed isolated segments of various parts of the small intestine by surgical operations. When this is done, a toxemia similar to that in acute obstruction occurs; and the source of the toxemia is the closed segment, since if this is removed the symptoms disappear. The proteolytic group of intestinal bacteria are the principal agents in the manufacture of the poisons absorbed from such closed loops of intestine. If these are rendered sterile by prolonged drainage into the abdominal cavity, no toxemia can occur.

As the production of these closed segments of the intestine is a readily available method of inducing in the experimental animal a toxemia definitely due to the activity of the intestinal bacteria, Dragstedt and Nisbet[8] have attempted to sterilize the intestinal mucosa by the direct application of chemical antiseptics to isolated loops or short segments of the intestine in animals. Despite the fact that this procedure offers a far more direct opportunity for germicidal effects to manifest themselves than the usual oral administration could possibly permit, sterilization was in no case secured. Many of the usual antiseptics of a strength thought to be sufficient to sterilize a surgeon's hands were used without regard for their possible toxicity, since they could be immediately removed. Furthermore, they were applied directly to the segment of intestine in their full strength undiluted or mixed with the gastric or intestinal content. In spite of these most favorable conditions, it was not possible to prevent the intestinal toxemia associated with stasis. At present, therefore, no experimental justification can be cited for the clinical use of antiseptics intended to produce intestinal antisepsis by direct action on the microorganisms that inhabit the gastro-enteric tract.

4. Weintraud, W.: Ergebn. d. allg. Path. u. path. Anat. **4**: 17, 1897.
5. Harris, N. M.: Intestinal Antisepsis, J. A. M. A. **59**: 1344 (Oct. 12) 1912.
6. Hatcher, R. A., and Wilbert, M. I.: Pharmacology of Useful Drugs, Chicago, American Medical Association, 1915, p. 153.
7. Fantus, Bernard: Useful Cathartics, Chicago, American Medical Association, p. 97.
8. Dragstedt, L. R.; Dragstedt, C. A., and Nisbet, O. M.: Intestinal Antisepsis: Effect of Antiseptics on a Type of Experimental Intestinal Toxemia, J. Lab. & Clin. Med. **8**: 190 (Dec.) 1922.
9. Dragstedt, L. R.; Moorhead, J. J., and Burcky, F. W.: J. Exper. Med. **25**: 421 (March) 1917. Dragstedt, L. R.; Dragstedt, C. A.; McClintock, J. T., and Chase, C. S.: J. Exper. Med. **30**: 109 (Aug.) 1919.

Current Comment

THE MAMMARY GLAND AS AN EXCRETORY ORGAN

Milk is so unique in its composition, and the specific character of its constituents is so largely independent of direct dietary influences, that it is looked on for the most part as an unusual synthetic product. From this standpoint, therefore, the mammary gland in which milk is elaborated has come to be regarded as preeminently a secretory structure characterized by its constructive or anabolic capacities. Nevertheless, the constituents of milk are by no means entirely confined to the group of products manufactured de novo in the mammary gland. Milk contains various substances present as such in the blood and other body fluids. Among these are the so-called nonprotein nitrogenous extractives: amino-acids, urea, creatin, creatinin and uric acid. It has been shown by Denis, Talbot and Minot, for example, that in many cases the figures for the content of the nonprotein substances are virtually the same in the milk as in the blood. Taylor[1] of

1. Taylor, W.: Note on the Non-Protein Nitrogen in Goat's Milk, Biochem. J. **16**: 611, 1922.

Aberdeen has now presented additional evidence that in a lactating animal there is a correlation between the daily output of nitrogen in the urine and the percentage of nonprotein nitrogen in the milk, both apparently being determined by the amount of protein in the food. The concentration of nonprotein nitrogenous catabolites in the blood seems to determine both the amount excreted in the urine and the percentage present in the milk. The mammary gland acts to some extent as an excretory organ, waste nonprotein nitrogenous substances filtering through from the blood to the milk. The percentage in which these are found in milk seems to be determined by the degree of concentration in the blood of the end-products of protein metabolism. When the function of the mammary gland is viewed from this standpoint as well as from an appreciation of its synthetic capacities, it is not difficult to understand why milk should occasionally become a vehicle of substances that are undesirable as a dietary ingredient.

MALARIA AND SUNLIGHT

Sporadic cases of malaria, as was observed long ago, occur in the spring long before the breeding season of the anopheles mosquito. After it became known that malaria parasites could pass the winter in the human blood stream, these cases were recognized as relapses from acute attacks of the previous summer. Why relapse appears with the advent of spring has not been determined. Ross believed that external heat encouraged the parasites to multiply, and that when about fifty per cubic millimeter accumulated in the blood the first definite symptoms of illness were noted. He [1] observed in 1898 that the parasites in birds diminished when they were taken to the cool climate of the Himalayas, and that they increased again when brought back to Calcutta. Lenz [2] and Schaedel,[3] accepting the parthenogenic theory of reproduction of Schaudinn, believe that sunlight causes the relapse and that its increased intensity stimulates the gametocytes to start the asexual cycle. On a similar basis, Reinhard [4] undertook to cure malaria by exposing patients to ultraviolet rays with the idea of causing the parasites to come out into the peripheral circulation where quinin could destroy them; in 63 per cent. of thirty-eight cases so treated, asexual forms of the malaria parasites appeared in the blood, in one half of them within seven days. In his patients not exposed to the rays, spontaneous relapse took place in about three and a half weeks. There is therefore clinical evidence that relapse in malaria is associated with exposure to sunlight, and that ultraviolet rays are an effective agent in producing it. Whitmore has undertaken to study the action of light in malaria in birds. It is planned to determine the dose of unfiltered light, and what part of the spectrum will cause a relapse; then to work back the dosage—he is working with a quartz mercury vapor lamp—to an equivalent dosage of sunlight. The results thus far indicate that two hours' exposure to the lamp at a distance of 24 inches with the meter reading at 75 and the birds' feathers intact will cause relapse. Relapse will occur in fifteen minutes when the unfiltered light is directed to an area from which the feathers have been removed. Certainly these experiments may lead to great improvement in the facility with which this disease may be diagnosed.

1. Ross, Ronald: The Prevention of Malaria, New York, E. P. Dutton & Co., 1910.
2. Lenz, F.: Malariarezidive und Sonnelicht, München. med. Wchnschr. **67**: 697 (June 11) 1920.
3. Schaedel, A.: Biologische Betrachtungen zur Fraga der Malariarezidive und der Malariaverbreitung, Biol. Centralbl. **38**: 143, 1918.
4. Reinhard, P.: Ueber Provokation latenter Malaria durch Bestrahlung mit ultraviolettem Licht, München. med. Wchnschr. **64**: 1193, 1917.
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THE VELOCITY OF THE PULSE WAVE

The study of the dynamics of the circulation has been accelerated in recent years as the result of numerous innovations in technic and of a greater inherent interest in the subject following the development of the clinical measurement of blood pressure and the evolution of electrocardiography. The methods employed in the days of pioneers like Chauveau and Marey have given way in part to procedures of greater accuracy and delicacy. Consequently, some of the so-called constants of the circulatory system have been redetermined, and the characteristics of its performance formulated more precisely than ever before. This is true of the velocity of the pulse wave, for example. It has customarily been estimated to vary somewhere between 6 and 9 meters a second for adults, the length of the wave being taken as about 5.6 meters. Bazett and Dreyer [1] of the University of Pennsylvania have lately concluded that the velocity of transmission of the pulse wave is much slower in the large vessels than in the smaller and more peripheral vessels. While a velocity of the pulse wave of about 7 meters a second is confirmed from a comparison of carotid and radial pulses, such a velocity is merely an average between a velocity of about 4 meters a second in the brachial and 8.5 meters a second or more between the elbow and the wrist. The velocity of transmission in the carotid, aorta and possibly the femoral artery is of about the same rate as that found for the brachial. The rate of transmission is much more variable in the more peripheral parts of the arterial system, and is in all probability much more dependent on local conditions of vasoconstriction or dilatation. It may be worth while recalling, further, that, in the light of the known facts, long before the pulse wave has disappeared at the beginning of the aorta it has reached the most distant peripheral vessels.

1. Bazett, H. C., and Dreyer, N. B.: Measurements of Pulse Wave Velocity, Am. J. Physiol. **63**: 94 (Dec.) 1922.

Educational Standards for Physiotherapists.—The proper training of the physiotherapists of the future will have to be some two or three years of college education as a minimum, including biology, anatomy (including histology), physiology, bacteriology, chemistry and physics, so that we may be sure that they have sufficient knowledge of bacteriology, physiology, anatomy and other fundamentals. To this should be added one or more years of practical work in the hospital clinic with good instructors. All the necessary training in the technical procedures should be under the guidance of the medical profession. It would be a sad thing to banish the physiotherapist from the great medical centers where his influence and assistance are most needed.—R. L. Wilbur, *California State J. M.* **21**:25 (Jan.) 1923.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Personal.—Dr. Hugh C. McRee, Decatur, has been appointed physician of Morgan County to succeed Dr. Burton F. Austin who resigned.——Dr. John L. Gallagher, Dora, has been appointed full-time health officer of Limestone County.——Capt. William M. Caffee, Manila, P. I., who has resigned his commission in the M. C., U. S. Army, will open an office in Birmingham.——Dr. Burton F. Austin, Decatur, was presented with a handsome gold watch and chain by members of the Morgan County Medical Society, February 1, on his retirement as county health officer. Dr. Austin succeeds Dr. Grote as health officer of Huntsville and of Madison County.

COLORADO

Society News.—At the annual meeting of the Denver Tuberculosis Association, Dr. George Walter Holden, Denver, was elected president, and Dr. Margaret E. V. Fraser, Denver, secretary.——At the annual meeting of the Northeast Colorado Medical Society, at Sterling, in January, Dr. John W. Kinzie, Haxtum, was elected president, and Dr. Edward P. Hummell, Sterling, secretary-treasurer. Dr. John W. Amesse, Denver, gave an address on "School Health Problems."——Dr. Thomas A. Davis, Portland, and Dr. Otis Orendorff, Canon City, were elected president and secretary-treasurer, respectively, of the Fremont County Medical Society at the annual meeting in Florence, January 22.

Colorado State Board of Health.—At the annual meeting of the state board of health in Denver, February 9, the following officers were elected for the ensuing year: president, Dr. George K. Olmsted, Denver; vice president, Dr. C. W. Compton, Pueblo, and secretary, Dr. Tracy R. Love, Denver. Dr. Margaret Ethel V. Fraser, Denver, Dr. Samuel R. McKelvey, Denver, and A. W. Scott, Fort Collins, have been appointed to fill vacancies on the state board of health.——It is reported that the Rockefeller Foundation has offered to aid the Colorado State Board of Health in its activities planned for the coming year, among which is the establishment of health units throughout the state, each to be provided with a full-time health officer.

CONNECTICUT

Professor Lambert to South America.—Dr. Robert A. Lambert, assistant professor of pathology and bacteriology at Yale University Medical School, New Haven, since 1919, has resigned to accept the professorship in the department of pathology at the Faculdade de Medicina e Cirurgia de São Paulo, Brazil. Dr. Lambert recently made a survey of the medical schools of San Salvador, Guatemala and Nicaragua, to obtain accurate knowledge concerning the standards of medical education in Latin America.

DISTRICT OF COLUMBIA

Personal.—P. A. Surg. Marion F. Haralson of the U. S. Public Health Service has been relieved from duty at Hamburg, Germany, and assigned to temporary duty at Havre, France, in place of Surg. Grover A. Kempf, who has been directed to proceed to London, England, to make investigations of health organization and administration in conjunction with the health section of the League of Nations.——Asst. Surg. Gen. Arthur M. Stimson, Washington, has been directed to proceed to London, England, for duty in the American consulate, relative to the issuance of American bills of health, and to make investigations of health organization and administration in conjunction with the health section of the League of Nations.

GEORGIA

Dr. Bassett Reappointed.—Dr. Victor H. Bassett has been restored to the position of director of the hygienic laboratory of the board of sanitary commissioners, Savannah, and also made acting health officer during the reorganization of the city health department.

IDAHO

Personal.—Dr. T. N. Braxtan, Boise, has been appointed county physician of Ada County; Dr. Thomas E. Mangum, Nampa, county physician of Canyon County, and Dr. Vonanda G. Logan, American Falls, county physician of Power County.——At the annual meeting of the Pocatello Medical Society, Drs. Casper W. Pond and William F. Howard were elected president and secretary-treasurer, respectively.

ILLINOIS

Society News.—Dr. W. N. Peck of the Tri-State Medical Society has been advised that the medical department of the U. S. Army will be host at a luncheon at Washington, D. C., to about 250 members of the Tri-State society, who will compose the "clinic train" party that will visit the larger Eastern cities this spring for the purpose of attending clinics. A clinic will be given at the Walter Reed General Hospital for the party.

Physicians Under Trial.—Dr. Henry Lee Green, Quincy, convicted, Jan. 21, 1922, on a change of violating the Harrison Narcotic Law, was fined $1,000 and costs, February 5, at Springfield, by Judge FitzHenry, according to reports.——It is reported that Dr. Carl W. Kimery, Sullivan, was sentenced to thirty days in jail, by Judge Grider, February 1, when he pleaded guilty to violation of the Volstead Act.——Dr. Albert Willis, Christopher, was acquitted of the charge of causing the death of Miss Mary Shifflett of Leroy, it is reported.

Personal.—Dr. John J. Grant, Freeport, was recently elected president of the Grant County Medical Society.——Col. John L. Fryer, in charge of the sanatorium at Battle Mountain, S. D., has been appointed chief surgeon at the Danville National Soldiers' Home to succeed Major Edward N. Schillinger.——Dr. Arthur H. Curtis, Chicago, addressed the members of the Vermillion County Medical Society at Danville, February 6.——Dr. Guy G. Kilgour, Malden, has accepted the appointment of assistant superintendent of the State Hospital for the Insane at Anna.——Dr. Franklin A. Turner has been appointed director of hygiene of the Rockford public schools, to succeed Dr. Dudley W. Day, who resigned recently.——Dr. Arthur H. Gollmar, Kankakee, is the author of a play "The Mirror Behind the Bar" or "A Glandular Extract from the Common Law," which was produced before the Kankakee County Medical Society, recently.

Chicago

Antinarcotic Activities.—The propaganda committee of the Chicago Medical Society, to whom the matter of relieving drug addicts was referred, has complied with the request of the national organization and compiled a speakers' list. Plans have also been formulated by which those persons addicted to drugs will be properly hospitalized and provided with medical attention. These plans will be announced later.

Personal.—Dr. T. Melville Hardie is a member of the Chicago Curling Club, which defeated the Royal Caledonian Curling Club of Scotland at the annual games held in Chicago, February 16.——A dinner was given in honor of Professor Schick of Vienna, Austria, February 21, at the Hamilton Club. Following the dinner, Professor Schick gave an address before the Chicago Medical Society on the "Prevention of Diphtheria."

INDIANA

Beardsley Bill Defeated.—The state senate, February 8, failed to pass the Beardsley bill, which would commit Indiana to cooperation with the federal government under the Sheppard-Towner Maternity act.

Tuberculosis Conference.—The annual meeting of the Indiana Tuberculosis Association was held in Indianapolis, February 13-14, under the presidency of Dr. George T. McCoy, Columbus. Dr. Charles H. Good, president of the Indiana State Medical Association; Dr. J. S. Pritchard, Battle Creek, Mich., and Dr. R. H. Hayes, Chicago, gave addresses at the conference. Dr. E. Blanche Sterling, U. S. Public Health Service, Washington, D. C., addressed the closing session, February 14, on "School Health Supervision in Relation to Tuberculosis."

IOWA

Iowa Admitted to Registration Area.—The registrar of vital statistics announces that Iowa now complies with the standard set by the Bureau of the Census for registration of deaths,

and has been admitted to the registration area of the United States. Iowa is not yet admitted to the registration area on births.

Society News.—The semiannual meeting of the Sioux Valley Medical Association was held at Sioux City, January 25-26, under the presidency of Dr. Cheney C. Gross, Yankton, S. D. The meeting was preceded by the tenth annual convention of the Sioux Valley Eye and Ear Academy (Iowa, Nebraska and South Dakota), January 24, held under the presidency of Dr. James M. Patton, Omaha. Among the speakers at both meetings were Drs. George F. Suker, Harry L. Pollock and Clifford G. Grulee of Chicago, and Dr. Martin H. Fisher of the University of Cincinnati.——The annual meeting of the Iowa Tuberculosis Association was held at Cedar Rapids, February 14-16, in conjunction with the Iowa Sanatorium Association, the U. S. Public Health Service, the state board of health, the state housing commission and the county medical societies of the fifth district. A health pageant was given by the children of the city.

KENTUCKY

Personal.—Dr. F. A. Jones, Paducah, was recently elected president of the McCracken County Medical Society.——Dr. Eugene C. Roemele, Frankfort, has been reelected health officer of Franklin County for two years.——Dr. William H. Coffman, Georgetown, was recently elected president of the Scott County Board of Health.——Dr. Frederick G. Speidel, Louisville, has been appointed physician for the Portland district, to succeed Dr. Louis W. Eckels, Jr.——Dr. G. W. White, Henderson, recently fractured both his wrists in a fall in a gymnasium.——Dr. Joshua W. Meshew, Barlow, is in the Riverside Hospital, Paducah, suffering from septicemia. ——Dr. E. M. Ewers, formerly of Anchorage, now surgeon at the hospital at Muchan, China, is visiting in the United States.

LOUISIANA

Radiologists Elect.—The annual meeting of the Louisiana Radiological Society was held in New Orleans, January 13, under the presidency of Dr. Sidney C. Barrow, Shreveport. The following officers were elected for the ensuing year: president, Dr. Lucien A. Fortier, New Orleans; vice president, Dr. Clifford P. Rutledge, Shreveport, and secretary-treasurer, Dr. Harold G. F. Edwards, Lafayette.

Personal.—Dr. Laurence R. DeBuys, professor of pediatrics, Tulane University of Louisiana, New Orleans, has been elected a member of the board of directors of the American Child Health Association.——Dr. James M. Batchelor has been appointed chief surgeon and chairman of the medical advisory committee of the Presbyterian Hospital, New Orleans, of which Dr. John C. Barr was reelected president, and Dr. A. C. Browne, secretary.

MAINE

Physician Loses Malpractice Suit.—In the suit of Harold Fletcher against Dr. William C. Peters, Bangor, to recover $10,000 for alleged malpractice, it is reported that on January 24, the jury returned a verdict of $1,500 in favor of the plaintiff.

MARYLAND

Epidemic (Lethargic) Encephalitis Prevalent.—According to the director of the bureau of communicable diseases, Dr. John F. Hogan, Baltimore City Health Department, Baltimore is passing through a period of epidemic (lethargic) encephalitis. In studying the present outbreak, Dr. Hogan is making personal visits to patients at the request of attending physicians. Two physicians of the health department have been designated to investigate all cases that have been reported since January 1, in order to ascertain the actual number of patients suffering with the disease.

Personal.—Dr. Julius Friedenwald, Baltimore, was recently elected president of the Southern Gastro-Enterological Association, at the annual meeting in Chattanooga, Tenn.——Dr. Charles M. Byrnes, associate in clinical neurology at Johns Hopkins University, Baltimore, has been elected president of the Philadelphia Neurological Society.——Dr. George Edmund de Schweinitz, Philadelphia, President of the American Medical Association, spoke on "Vascular Changes in the Eye and Their Relationship to Constitutional Diseases" before 300 physicians and surgeons at the University of Maryland School of Medicine, February 15.——Dr. Howard Barker has been appointed medical officer in charge of U. S. Veterans' Hospital No. 56, Fort McHenry.

Gift to the Johns Hopkins University.—Announcement was made by Dr. Frank J. Goodnow, president of the Johns Hopkins University, at the Commemoration Day exercises, February 22, of a conditional gift of $900,000, from an anonymous donor. At the same time, a grant of $2,000,000 to the university from the Carnegie Corporation was announced. This gift, the first ever made by the Carnegie Corporation to this university is to be used in the construction and maintenance of an outpatient dispensary and diagnostic clinic. The gift of $900,000 is provisional on the raising of $1,000,000 by April 1. The Phipps fund of $60,000, formerly available each year for the maintenance of the psychiatric clinic, will cease on that date. The anonymous gift is to be expended for the expansion as well as the endowment of the psychiatric clinic.

MASSACHUSETTS

Personal.—Dr. George MacIver, first assistant director of the Massachusetts General Hospital, Boston, has been appointed secretary-treasurer of the New England Hospital Association to fill out the unexpired term of Dr. Nathaniel W. Faxon, who recently became superintendent of the University Hospital, Rochester, N. Y.——Dr. Charles A. McCarthy has been appointed city physician of Lawrence. ——Dr. Channing Frothingham, Jr., Boston, has been appointed a trustee of the Boston Psychopathic Hospital.—— Dr. Henry L. Houghton, Boston, has been appointed a member of the state board of registration in medicine to succeed the late Dr. Nathaniel Perkins.——Dr. William L. Richardson, Boston, has been appointed a trustee of the Perkins Institution for the Blind, Boston.

MICHIGAN

Health Board Wins Decision.—A writ of mandamus compelling the Lansing Board of Education to enforce the order of the board of health requiring vaccination of students, teachers and janitors of the public schools or their expulsion from schools, was issued by Judge Leland Carr, February 7, it is reported. The board of education plans to carry the controversy to the state supreme court.

MINNESOTA

New Public Health Journal.—The *Northwestern Health Journal*, an outgrowth of the *Minnesota Public Health Journal*, published its first issue, February 10. Associated with Dr. Naboth O. Pearce, the editor, are Dr. Carl B. Drake, St. Paul, editor of *Minnesota Medicine;* Dr. William A. Jones, Minneapolis, and B. G. DeVries, D.D.S. The new journal has received the endorsement of the state medical association and the state board of health.

MISSOURI

Chiropractor Bills.—Three chiropractor bills have been introduced into the legislature, demanding that chiropractors who have been practicing in the state for one year be licensed, but that, after the passage of the act, they shall be examined by a chiropractic board in anatomy, physiology, chemistry, symptomatology, hygiene, sanitation and the special methods of chiropractic. They must have as a preliminary qualification a four years' high school course or its equivalent, the bills state, and they shall be entitled to all the rights and privileges of physicians and surgeons.

New Health Association.—A health organization to be known as the Health Conservation Association has been formed by the amalgamation of the Kansas City Tuberculosis Society and the committees for social hygiene, mental hygiene, dental hygiene and cancer control, with offices at 408 East Eleventh Street, Kansas City. The association is for the protection and improvement of city health. It will conduct campaigns against tuberculosis, cancer, venereal disease and other preventable or curable maladies. R. E. Parsons, president of the city tuberculosis society, was elected president, and Dr. Scott P. Child, treasurer.

NEW JERSEY

Mosquito Extermination Association Meeting.—At the tenth annual convention of the New Jersey Extermination Association, in Atlantic City, Dr. Thomas J. Headlee, entomologist of the New Jersey Agricultural Experiment Station, stated that 140,000 acres of salt marsh land had been drained and 60 per cent. of the mosquito-breeding places on the upland had been eliminated as the result of the efforts of the association.

Personal.—Dr. Effie R. Graef, Somerville, returned home on the White Star liner *Homeric* in January, after four years of hospital relief work in Turkey, Armenia and Russia.——Dr. G. Wyckoff Cummins has been appointed city physician of Belvidere.——Dr. Edward Guion, Atlantic City, has been appointed head of the Atlantic County Insane Asylum.——Dr. Louis Shalet, West New York, formerly superintendent of the Montefiore Home County Sanatorium, Bedford Hills, N. Y., has been appointed medical superintendent of the Workmen's Circle Sanatorium, Liberty, N. Y.——Dr. Charles Schwinn, Camden, has been appointed superintendent of the Sunny Rest Sanatorium, Ancora, to succeed the late Dr. Joel W. Fithian.

NEW YORK

Kings County Medical Society Opposed to Reregistration.—Dr. Charles E. Scofield, president of the Medical Society, County of Kings, reports that the society has gone on record as being opposed to any reregistration measures.

Appropriation for Site for Veterans' Hospital.—Governor Smith, in signing a bill which appropriates $500,000 for the purchase of lands at the Kings Park State Hospital, suggested that the Kings Park Hospital be enlarged so that all New York State veterans of the World War who are mentally afflicted can be cared for there.

State May Purchase Social Hygiene Plant.—John D. Rockefeller, Jr., has asked $175,000 for his social hygiene plant beside the State Reformatory for Women at Bedford. The managers of the latter institution are negotiating for the purchase of the plant, which is assessed at $250,000. Mr. Rockefeller built the plant of the social hygiene bureau and laboratory to further the work at the Bedford Reformatory.

Scarlet Fever on Long Island.—Twelve cases of scarlet fever were recently reported in one class in the public school at Freeport, L. I. Several cases of the disease have also been reported from Babylon. Dr. Frank Overton, state medical supervisor of Suffolk County, has advised that all athletic events be cancelled for the present and that children be kept away from motion picture shows.

Public Safety Commissioner Seizes Coal.—Dr. Arthur J. Leonard, public safety commissioner of Saratoga Springs, directed the city police and firemen to seize two carloads of anthracite coal in the Delaware and Hudson Railroad yard, February 19, to relieve the coal situation in the city, it is reported. A notice served on Dr. Leonard by the president of the Saratoga Coal Company, ordering him to give up the coal, was ignored, and the distribution of coal proceeded, volunteer workers, police and firemen delivering it throughout the city to meet emergency needs.

Hospital News.—A campaign to raise $1,000,000 for the erection of a new nurses' home and new laboratories for the graduate courses recently inaugurated at the Long Island College Hospital, Brooklyn, will be launched, March 1, and will continue for fifteen days.——Twenty-two violently insane patients and three attendants perished in a fire which destroyed part of the Manhattan State Hospital, Wards Island, February 18. Of the ninety inmates, sixty-eight were finally saved after resisting and laughing at their rescuers.——The Brooklyn Hebrew Maternity Hospital will erect a new building on the site adjoining the present institution at a cost of $200,000. Ground will be broken about April 1.

Symposium on Medical Organization.—At a stated meeting of the Medical Society of the County of New York, January 22, the outstanding feature was a symposium on medical organization. Dr. George E. de Schweinitz, Philadelphia, President of the American Medical Association, spoke on "The National Society"; Dr. Wendell C. Phillips, New York, trustee of the American Medical Association, gave "An Intimate Talk on the Activities of the American Medical Association" (illustrated with lantern slides); Dr. Arthur W. Booth, Elmira, president of the state medical society, spoke on "The State Society," and Dr. Arthur F. Chase, New York, president of the county association, delivered an address on "The County Society."

Governor Calls Medical Conference.—Invitations have been sent out from the executive office at Albany, asking college professors, health board officers, rural practitioners and prominent physicians to meet with the governor, February 26, to discuss pressing health problems. Among the problems scheduled for discussion are the narcotic drug evil, medical education and medical research, rural health problems, the need of physicians in rural districts, and the enforcement of the Medical Practice Act. The *Medical Week*, in commenting on this step, says that the governor, by a sweep of the pen, lifted medical problems out of politics and made them the affair of the whole people, and for the first time the medical profession stands where it should, not on the defensive but as a body of experts sitting at conference with the chief executive of the state.

New York City

Sex Education at School of Pedagogy.—Dr. Thomas W. Galloway of the American Social Hygiene Association, will give a course of lectures to teachers at the School of Pedagogy of New York University. Following is a summary of the course as outlined in the university's catalogue under sex education:

An introduction to the problems of sex education for the teacher. The course will include an elementary review of the biologic, physiologic, psychologic and social groundwork of the sex-social impulses and their expression, with an effort to deduce from this and from the various experiments that have been made a tentative grading, placement and technic in relation to both the schools and the other community agencies closest to the work of the teacher. The course will comprise lectures, assigned readings, discussions and special reports.

Personal.—Dr. Joseph J. Cosgrove has been appointed medical superintendent of the U. S. Veterans' Mountain Camp, Tupper Lake.——Dr. E. V. Cowdry of the Rockefeller Institute for Medical Research will deliver the Harvey Society Lecture, March 10.——Dr. John J. Moorhead has been appointed head of the new medical board of Beekman Street Hospital.——Dr. William P. St. Lawrence has been elected chairman of the Association of Cardiac Clinics.——Dr. Philip F. O'Hanlon, police department surgeon, has been retired at his own request, following twenty-seven years of service, and will resume the practice of medicine.——Dr. John J. McGrath has been appointed chairman of the board of trustees of Bellevue and allied hospitals to succeed Dr. John W. Brannan.——Dr. Melvin S. Henderson of the Mayo Clinic read a paper entitled "Loose Bodies in the Joints and Bursae Due to Synovial Osteochondromatosis," before the orthopedic section of the New York Academy of Medicine, February 16.——Dr. Gustav Scholer has been reappointed by Governor Smith as manager of the Manhattan State Hospital.——William Bondy of New York has been reelected member of the state board of regents.——Dr. Alexander Lambert testified before the House Foreign Affairs Committee in the first of a series of hearings on the bill introduced by Representative Porter of Pennsylvania to suppress illicit international traffic in drugs.

NORTH CAROLINA

Abolishes Prison for Insane.—The senate passed the bill which would abolish the department for the criminal insane at the state prison and place the inmates in the state hospitals for the insane, February 9. Transfer of control of the state sanatorium for the treatment of tuberculosis from the state board of health to a board of directors to be named by the governor, was also approved by the senate, the bill passing its third reading.

OHIO

Graphic Health Service.—The Ohio Public Health Association has announced the inauguration of a graphic health service. A series of charts of standard size will be issued on the 1st and the 15th of each month covering the subject of public health as expressed through vital and morbidity statistics, the state department of health, voluntary organizations, hospitals, dispensaries and public health nursing. A year's subscription for these charts is $2, which covers only the actual cost of preparation and publication.

Medical Practice Act Upheld.—In an opinion handed down, January 16, in the case of the state ex rel. Lewis M. Copeland (a chiropractor) against the state medical board, in which Copeland sought to compel the board to issue him a license to practice for five years before the limited practitioners act became effective, October, 1915. The Supreme Court of Ohio, in a unanimous opinion, written by Chief Justice Marshall, holds that the mere filing of an affidavit by an applicant for a certificate stating that he was entitled to it is not sufficient. The board has a right, the court held, to inquire into the alleged facts set forth in the affidavit, which it did in Copeland's case, and refused him a license. The court denied his application for a writ of mandamus to compel the board to issue him a certificate.

New Buildings Named After Former Teachers.—Four former Columbus physicians are honored in the naming of three buildings at the Ohio State University College of Medicine, Columbus. The present university hospital with its contemplated addition will be known as the Starling-Loving University Hospital, in honor of Dr. Starling Loving, for

many years professor of medicine and at one time dean of the faculty of the Starling Medical College, and of Dr. Lyne Starling, founder of the Starling Medical College and cofounder of St. Francis Hospital. The medical research building, located just west of the hospital, has been named Kinsman Hall in honor of Dr. David Nathaniel Kinsman, who was professor of the practice of medicine in the old Ohio Medical University. The medical science building will be known as Hamilton Hall, in honor of Dr. John Waterman Hamilton, who was a professor of surgery in Columbus Medical College and a cofounder of Mount Carmel Hospital. The secretary of the board of trustees announced that these buildings had been named in honor of the three colleges of medicine which merged with the state university, and of the men who were most prominent in their work.

Hospital News.—The Grant Hospital, Columbus, has been conveyed by Dr. J. F. Baldwin, former president of the Ohio State Medical Association, through a deed of trust to a self-perpetuating board of trustees. The nurses' home was included in the transfer, which was made December 24.——The new psychopathic hospital, erected at a cost of $800,000 in Cleveland, and considered the latest advance in construction for the care and treatment of the insane, was closed December 25, after being open two weeks, by order of the director of public welfare. It has been announced that the institution will probably be rebuilt to correct certain defects.——Plans for the erection of a state hospital for feebleminded at Grafton at a cost of $5,000,000, on a 1,100 acre plot, have been announced by the superintendent of the state welfare department. Construction work on the twenty-eight new buildings will start this spring, and the entire plant will be completed within two years, it is expected.——The new hospital of the National Home for Disabled Volunteer Soldiers, Dayton, was opened for public inspection, January 22. Tuberculous patients only will be admitted to this institution, which has a capacity of 250 beds.

PENNSYLVANIA

Personal.—Dr. William C. White has resigned as medical director of the Tuberculosis League of Pittsburgh following sixteen years of service. Dr. C. Howard Marcy will succeed Dr. White.—— Dr. Clair S. Bauman, Lock Haven, has accepted the post of company physician at Calcutta, India, with the Ludlow Manufacturing Company of Boston. He will sail in May.——Dr. William G. Turnbull, medical director of the Cresson Sanatorium, has been appointed deputy state health commissioner by Dr. Charles H. Miner, state health commissioner. He will assume his duties, March 1, succeeding Col. John D. McLean, resigned.

SOUTH CAROLINA

Trustees for Medical School Elected.—The general assembly, February 1, elected Drs. Gottlob A. Neuffer, Abbeville, Larkin H. Jennings, Bishopville, E. H. Barnwell, Charleston, and D. T. Riley, Florence, as trustees of the board of the Medical College of the State of South Carolina, Charleston.

TENNESSEE

Governor Signs Chiropractors' Bill.—Governor Peay signed the chiropractors' bill, February 2, it is reported. This is the culmination of a long fight by the chiropractors of Tennessee to win recognition. The new act provides for the establishment of a board of chiropractors, one member from each grand division of the state, which is empowered to conduct examinations and issue licenses. It also authorizes chiropractors to sign death certificates.

Physician Wins Verdict.—A peremptory verdict in behalf of Dr. Abraham L. Blecker, Memphis, was directed in circuit court, February 1, by Judge Pittman in a case brought against the physician by the administrator of the estate of Mrs. Anna Katz, deceased, in a suit for $25,000 damages which grew out of the death of Mrs. Katz following a cesarean section in June, 1918. The plaintiff contended that Dr. Blecker performed this operation without the consent of Mrs. Katz's father or husband. Dr. Blecker stated that he operated in a serious emergency caused by the development of eclampsia. Judge Pittman in directing the verdict held that Dr. Blecker was entirely right in operating under the circumstances.

UTAH

Hospital News.—A receiving building was recently opened at the Utah State Hospital, Provo. It was erected at a cost of $250,000 and is called the George E. Hyde Memorial building.

VERMONT

Personal.—Drs. Winfield Scott Nay, Underhill, and A. E. Parlin, Island Pond, have been reappointed to the Vermont State Board of Medical Registration.—— Dr. William G. Ricker, St. Johnsbury, has been appointed a member of the state board of health, and Dr. William N. Bryant, Ludlow, a member of the board of supervisors of the insane.

VIRGINIA

Personal.—Dr. Howard F. Smith, surgeon, U. S. Public Health Service, for the last two years quarantine officer-in-charge at Hampton Roads, has been transferred to Manila, P. I.——Dr. A. M. Byrd has resumed practice in Richlands, following three and a half years of illness.——Dr. Richard Eanes, formerly of Moseley, and for the last three years stationed at Tientsin, China, has landed in San Francisco. He will report for duty at the Fitzsimons Hospital, Denver. ——Dr. William P. Gilmer, Clifton Forge, sailed for Korea in January, where he will work as a medical missionary under the auspices of the Southern Presyterian Church.

WASHINGTON

Hospital Contract Awarded.—Construction of the U. S. Veterans' Bureau hospital located between Camp Lewis and Fort Steilacoom has been started. The Hurley-Mason Company of Tacoma was awarded the contract for $1,397,000, with a provision calling for completion within a period of 260 days. The entire cost of the base hospital will be $2,000,000, and will involve the erection and equipment of twenty-eight buildings.

WISCONSIN

Personal.—Dr. Chester L. Carlisle, surgeon, U. S. Public Health Service, has been assigned medical officer in charge of the U. S. Veterans' Hospital No. 37, Waukesha, vice Surg. Lawrence Kolb, who has been detailed to the Hygienic Laboratory, Washington, D. C. Dr. Carlisle was formerly chief of the neuropsychiatric section of the U. S. Veterans' Bureau in the eighth district, which comprises Wisconsin, Michigan and Illinois, with headquarters in Chicago.

PHILIPPINE ISLANDS

Banquet for Dr. Beck.—A dinner was given in honor of Dr. Joseph G. Beck, associate professor of surgery, otology, rhinology and laryngology at the University of Illinois College of Medicine, Chicago, by alumni of the University of Illinois and members of the eye, ear, nose and throat department of the University of the Philippines, at the Manila Hotel, when he was touring the Far East, recently.

Society News.—At the annual meeting of the Philippine Islands Medical Association, held in Manila, December 20-22, under the presidency of Dr. Henry H. Steinmetz, Manila, the following officers were elected for the ensuing year: president, Dr. Antonio G. Sison; vice presidents, Drs. I. Oto Schöbl and Leoncio Lopez-Rizal, and secretary-treasurer, Dr. Isabelo Concepcion (reelected). The next annual meeting will be held in Manila, December, 1923. Dr. Walfrido de Leon, who was elected delegate to the annual session of the American Medical Association, has already left for San Francisco. Dr. Leonard Wood, governor general of the islands, Dr. Charles N. Leach of the Rockefeller Foundation and Capt. W. D. Fleming, U. S. Army Medical Department Research Board, were among the speakers.——The annual meeting of the Manila Medical Society was held January 3, in the library of the Philippine General Hospital. Dr. Herbert W. Wade was elected president for 1923; Dr. Daniel De la Paz, vice president, and Dr. Carmelo M. Reyes, secretary-treasurer (reelected). The chairman announced that Dr. Liborio Gomez has been elected editor-in-chief of the *Journal of the Philippine Islands Medical Association,* to succeed Dr. Carmelo M. Reyes.

CANADA

Public Health in Canada.—Seven cases of epidemic (lethargic) encephalitis were reported from Vancouver in one day recently. It was stated that the majority of the cases were preceded by influenza.——The epidemic of influenza in Toronto is abating, although the capacity of the city hospitals is still overtaxed. The peak was reached the week ending February 10, when eleven deaths were reported in one day.

Personal.—Drs. John Hunter, Caroline S. Brown, James E. Forfar and Edwin C. Beer were recently elected members of the school board in Toronto.——Dr. Paul A. T. Sneath, Toronto, has been appointed a medical officer on the Gold

Coast, West Africa. He will take a course of instruction in tropical medicine in London, England, before taking up his duties in Africa.——Dr. Roderick D. Dewar, Melbourne, and Dr. William H. Woods, Mount Brydges, were elected president and secretary-treasurer, respectively, of the Middlesex Medical Association, at the annual meeting.——Dr. Alexander F. McKenzie and Dr. F. M. Walker were elected president and secretary, respectively, of the Southern Branch of the Simcoe County Medical Society at the annual meeting at Alliston.——Dr. Thomas C. Routley, secretary of the Ontario Medical Association, addressed the Niagara District Medical Society at Welland, January 4.

Amendment to Medical Practice Act.—Amendments to the Quebec Medical Act, passed by the lower house, were recently approved in the public bills committee of the legislative council after a number of the proposed changes had been killed. As finally approved, the bill holds that any one who assumes the title of doctor without qualifications, whether in newspaper advertising or by other means, is liable to fines ranging from $50 to $200. Improper advertising of this character will also carry a three months' prison sentence as well as a $200 fine for any offense subsequent to the second. The clause stating that "without previously obtaining authorization from the lieutenant governor-in-council, it is forbidden to keep an institute, private hospital, home for convalescent or sick persons, maternity hospital or establishment where consultations and treatments are given" was struck out, following representations by osteopaths of the province.

GENERAL

Drs. Elliot and Lovejoy Awarded Medals.—The Greek government has conferred the war cross on Drs. Mabel Elliot of Benton Harbor, Mich., and Esther Lovejoy of New York, for their services with the Near East Relief in Smyrna. It is stated this is the first time this decoration has been awarded to women.

Society News.—The seventy-fifth annual meeting of the South Carolina Medical Association will be held at Charleston, April 17-19, under the presidency of Dr. Charles F. William, Columbia, and in conjunction with the South Carolina Pediatric Association, the state nurses' association and the state public health association.——The annual meeting of the Southern Public Health Laboratory Association will be held in Richmond, Va., March 23-24. This association is composed primarily of the laboratory directors of the southern states.——The Women's Medical Society of New York will hold its annual meeting, May 21, in New York, under the presidency of Dr. Harriet M. Doane.

Appropriation for Lepers' Home.—The appropriation of $650,000 to provide additional facilities for the national home for lepers at Carville, La., is authorized in a bill that passed the House of Representatives. The measure had previously been adopted by the Senate and now goes to the President for his signature. The bill authorizes the enlargement of the leprosarium at Carville to accommodate 500 patients, as compared with its present capacity of 200. A theater is to be erected. The U. S. Public Health Service now controlling the National Lepers' Home at Carville has been compelled to reject many applications from state health authorities, asking that they be allowed to turn over lepers to the national government.

Surgeons Sail for South America.—Members of the American College of Surgeons sailed from Hoboken, N. J., February 10, on the Lamport and Holt liner *Vandyck* for a cruise to South America, which will occupy about two months. The purpose of the trip is the promotion of professional and social relations between the surgeons of Central and South America with surgeons of the United States, which, it is hoped, will lead to an exchange of professors and students between the colleges of surgery in the various countries. Approximately 350 members of the college and their families will make the trip. Scientific meetings and clinics will be held in the various cities, and the medical schools and hospitals visited. The party will be entertained by the president of Cuba. At Colon, Panama, they will assist in laying the cornerstone of the Gorgas Institute of Tropical Medicine.

Scheme to Defraud Physicians.—A swindler has visited York, Pa., Braddock, Pa., and Alliance, Ohio. He aims to call on the leading surgeons of a city and make arrangements for an operation for a growth on the inside of his right jaw, and a fistula. When all arrangements for the following day are made he produces a bank book on a bank in another part of the country, saying he will deposit money in a bank in the city where he happens to be, so that funds can be used as required during his stay in hospital. He induces the surgeon to advance money on account of his supposed bank account, and of course, never turns up for the operation the next day. The impostor uses the name of Frank S. Miller. He is 65 to 70 years old and 6 feet tall. He is clean shaven, appears nervous and deaf, has thin gray hair, a growth on the inside of the right jaw, and laughs peculiarly. Should this party come to your attention, please notify the First National Bank, Braddock, Pa.

FOREIGN

London Free from Smallpox.—The two remaining cases of smallpox in London were discharged from the Long Reach Isolation Hospital, Dartford, January 19, and for the first time in months the metropolitan area is free of the disease.

Body of Roentgen Cremated.—The body of Prof. William Konrad Roentgen, discoverer of the roentgen ray, was cremated at the Ostfriedhof Cemetery, Munich, February 13. The immediate cause of his death was strangulated hernia.

German Dermatology Congress.—The annual meeting of the German Dermatologic Society is to be held at Munich, May 20-23. The only topic selected for discussion is "Eczema." For further details, apply to Professor Jadassohn, Maxstrasse 1, Breslau.

Manchuria Medical College.—The Manchuria Medical College (formerly the South Manchuria Medical School) at Mukden, having been recently raised to the rank of a university, celebrated the augmentation of its faculty recently. Dr. I. Inaba, president of the college, delivered the opening address.

German Scientists Desire to Exchange Publications.—A committee has been formed in Germany to facilitate exchange of scientific periodicals. It is requested that those who wish to exchange American publications for foreign may address Notgemeinschaft der deutschen Wissenschaft, Bibliotheksausschuss, Berlin C.2, Schloss, Portal 3.

The Italian Surgical and Internal Medicine Congresses.—The thirtieth annual meeting of the Italian Surgical Society is to be held at Rome in October, the same week as the annual meeting of the Italian internists. There is to be a joint session of the two to discuss the surgical treatment of gallstones from the standpoint of chronic pancreatitis. The only other subject selected for discussion at the surgical congress is "Transplants." The officers of the society are Professors Alessandri, president; Parlavecchio and Baldo, vice presidents, and Rossa Felice and Crescenzo, secretary and treasurer, respectively.

Roentgenologist Honored.—Dr. Charles Vaillant of the Lariboisière Hospital, Paris, who has suffered the loss of both arms in roentgen-ray experimentation, was awarded the cravate of the Legion of Honor, the Carnegie hero medal and the gold medal of the city of Paris, February 19. The ceremonies took place at the city hall. The United States ambassador, Myron T. Herrick, conferred the Carnegie medal after Gen. A. Y. E. Dubail, grand chancellor of the Legion of Honor, had awarded Dr. Vaillant the cravate. The president of the municipal council of Paris presented the gold medal of the city of Paris, a rarely conferred honor. Dr. Vaillant has worked almost without respite for twenty-five years at Lariboisière Hospital, and was one of the first Frenchmen to apply himself exclusively to study of the roentgen ray.

Medical Library for American Hospital in Japan.—Dr. R. B. Teusler, director of St. Luke's International Hospital, Tokyo, is asking for assistance in building up a medical library at the institution. The hospital staff, which includes twenty Japanese physicians, is handicapped by lack of reference books, and the medical profession in general has no access to anything in Tokyo except occasional textbooks and broken files of American and British medical magazines. St. Luke's, the only American hospital in Japan, is being enlarged to a 230-bed capacity, for private and charity patients. Persons having published books on medicine or nursing are requested to donate copies, and physicians who are retiring from practice are asked to remember St. Luke's when disposing of their libraries. The Church Periodical Club, 2 West Forty-Seventh Street, New York, has charge of providing the library and will be glad to furnish further information.

German Warning Against Milligram Ampules.—The organized physicians of Greater Berlin have recently published a warning against the use of *milampullen*, and urge pharmacists not to dispense them when prescribed. The direct occasion for the warning was three instances of severe poisoning from atropin after subcutaneous injection of an ampule of atropin

from a box labeled to contain atropin in ampules in 1 mg. doses. The ampules dispensed had been prepared for veterinary purposes, and each ampule was supposed to contain 0.1 gm. of atropin. The organized pharmacists, it is stated by the *Medizinische Klinik*, have frequently warned that all preparations supposed to contain 1 mg. doses should be viewed with suspicion. Not only the labels on the packages may be incorrect, but the dose may not be accurate. This was evidenced by the three cases cited: If the whole alleged amount of 100 mg. had been contained in the ampule, the injection would probably have been fatal.

International Conference on Spanish Theory of Tuberculosis.—The *Semana Médica* and other journals give the details of the conference to be held at Madrid in the last two weeks of April, to discuss the various aspects of the theory in regard to the etiology and treatment of tuberculosis, which Dr. Jaime Ferrán promulgated twenty-five years ago, and on which there is now considerable international literature. It was commented on in THE JOURNAL, June 10, 1922, p. 1833. The conference is open to all who have any communication to make bearing on Ferrán's theory. A list of those already inscribed for the conference includes a number of tuberculosis specialists from Latin America, and Ascoli of Italy, Pribram of Vienna and Brück of Budapest. Prophylaxis and treatment based on Ferrán's views were applied in 1919 on a large scale at Alcira in Spain, as described in the Madrid Letter at the time, Oct. 4, 1919, p. 1074. The letter described also the scientific foundation for Ferrán's antialpha vaccination against tuberculosis.

Personal.—Dr. Brunner of Groningen, who was active in obtaining temporary homes for German children in Holland during the war, has received an honorary degree from the University of Greifswald.——Dr. F. von Soxhlet of Munich recently celebrated his seventy-fifth birthday.——Dr. L. Asher, professor of physiology at the University of Berne, has been elected honorary member of the Biologic Society of Buenos Aires.——Prof. M. Oppenheim of Vienna has been invited to address the annual meeting of the London Dermatologic Society on "Recent Progress in Dermatology."——Dr. Gálvez of Malaga was recently presented with an address on vellum in tribute to his work among the wounded in the Morocco campaign.——Dr. Franz M. Groedel of the University of Frankfort, Germany, was the guest of the Eastern Medical Society at the New York Academy of Medicine, recently. He gave a roentgen-ray demonstration of cardiac movements. ——Dr. E. Phole, Frankfort, conducted a ten-day clinic at St. Joseph's Hospital, Omaha, February 5-15.——Major W. D. H. Stevenson has been appointed officiating director of the Pasteur Institute of India, Kasauli.——Col. Charles Macwatt has been appointed director general of the Indian Medical Service, to succeed Major Gen. Sir William Edwards.

Deaths in Other Countries

Dr. **A. P. Sherwood,** at Eastbourne, two days after his retirement from practice.——Capt. **William A. Whitelegge,** surgeon of the British Navy; aged 61. —— Dr. **Cornelius Biddle,** December 16, aged 74.——Dr. **Mary T. McGarvan,** a medical missionary of the Christian Church for twenty years; at Damah, India, following an operation. Dr. McGarvan was formerly a resident of Lisbon.——Dr. **Hunter F. Tod,** well known surgeon for diseases of the throat, nose and ear. He died from malignant disease of the larynx, January 23, in his own ward in the London Hospital.——Dr. **Jorge Martínez Santamaría** of Bogota, aged 42. Nearly the entire issue of the *Repertorio de Medicina* of Bogota is devoted to the official tribute from the president of the republic, and the resolutions of condolence passed by the national parliament, by the public health and other departments and by the scientific societies of Colombia on the death of this physician, who was called the Colombian Pasteur. He founded the national laboratory for production of antiserums and vaccines, and published works on tropical diseases, one on leprosy winning an international prize.——Dr. **Raffray,** physician on Mauritius Island, east of Madagascar. Two of his works, on the nervous system and diet, were awarded prizes by the French Académie de médecine.——Dr. **Samuel M. Salazar,** professor of medical propedeutics at the Military Medical School of Mexico.

CORRECTION

Chicago Surgeons Not on Tour.—Drs. A. J. Ochsner and Henry Schmitz request statement that their names were included in a list of surgeons making the South American trip, THE JOURNAL, January 20, through error. The announcement published was taken from the Chicago *Journal.*

Government Services

New Name Proposed for Postal Department

The U. S. Postoffice Department, of which Dr. Hubert Work, former president of the American Medical Association, is head, will be known as the Department of Communications under the proposed reorganization of the government departments.

Colonel Forbes Resigns from Veterans' Bureau

It is announced from Washington that Col. Charles R. Forbes has resigned as director of the U. S. Veterans' Bureau. Colonel Forbes is now on leave in Europe.

U. S. Public Health Service

Examinations of candidates for entrance into the regular corps of the U. S. Public Health Service will be held, March 12, 1923, at San Francisco, Washington, D. C., and Chicago. Requests for information or permission to take this examination should be addressed to the Surgeon-General, U. S. Public Health Service, Washington, D. C.

Medals Awarded

Distinguished service medals for conspicuous efficiency during the World War were awarded this week by Secretary of War Weeks to Col. Christopher C. Collins, Medical Corps, and Capt. Robert A. Dickson, Medical Administrative Corps.

Reorganization of Government Departments

The plan of President Harding for reorganization of the government departments has been transmitted to Congress by the joint congressional committee on the reorganization of the administrative branch of the government.

An outstanding feature of the committee's report is the proposed creation of a department of education and welfare. This department would include a number of bureaus having functions related to public health, veteran relief and women and children's service, which are now functioning in at least a half dozen different departments of the government. The proposed organization of the department of education and welfare follows:

(*a*) This is a new department, to have four major subdivisions, each in charge of an assistant secretary, as follows:

- Education.
- Health.
- Social Service.
- Veteran Relief.

(*b*) Existing bureaus and offices to be transferred to the Department of Education and Welfare are as follows:

From the Department of the Interior:
- Bureau of Education.
- Indian schools.
- Howard University.
- St. Elizabeth's Hospital.
- Freedmen's Hospital.
- Bureau of Pensions.

From the Department of Labor:
- Women's Bureau (part).
- Children's Bureau (part).

From the Treasury Department:
- Public Health Service.

From the War Department:
- Soldiers' Home.

From the Department of Justice:
- Office of the Superintendent of Prisons.

Independent establishments:
- Smithsonian Institution.
- Federal Board for Vocational Education.
- National Home for Disabled Volunteer Soldiers.
- Columbia Institution for the Deaf.
- Veterans' Bureau.

No immediate action is expected on the report of the committee. Its recommendations have the sanction of the Cabinet, but must await the action of the December session of Congress.

Senate Investigation of Veterans' Bureau

A resolution proposed by Senator Walsh of Massachusetts, providing for a thorough investigation of alleged waste, extravagance and mismanagement in the Veterans' Bureau, has been adopted. The resolution requires the Special Hospitalization Committee, appointed in June, 1921, to consider

the charges of mismanagement, waste of funds and extravagant purchase of supplies, to determine whether or not such charges should be investigated and to recommend to the Senate the manner and scope of the investigation. The recent resignations of Director Charles R. Forbes, General Counsel Charles F. Cramer, and Dr. T. Hugh Scott, formerly executive officer, are regarded as significant in connection with the proposed investigation.

Survey of Philippine Subdistrict of Veterans' Bureau

Dr. L. B. Rogers, assistant director, has arrived from the Philippine Islands and is at his post as chief medical adviser in charge of the medical division of the U. S. Veterans' Bureau, Washington, D. C. Before leaving the islands, Dr. Rogers, accompanied by Major A. C. York, manager of the Philippine Islands subdistrict, made a survey of bureau activities in that section. More than $500,000 in gold is being paid annually to disabled ex-service men of the islands in the form of compensation, hospitalization and vocational training. Dr. Rogers visited the hospitals where bureau beneficiaries are located and personally examined about 300 patients. The bureau, which has about sixty cases in the Santol Tuberculosis Colony, Sana Mesa, Los Banos, the only institution in the vicinity of Manila admitting tuberculous patients, has a contract with the Philippine Island Antituberculosis Society, which conducts the sanatorium for the care of these wards, 5 pesos per day for each patient being paid by the bureau. Dr. Rogers, after visiting many proposed hospital sites, selected a tract of land with modern buildings, accessible to Manila and in a high altitude, which can be converted into a tuberculosis hospital at thirty days' notice. Following a conference with General Read and Colonel Kennedy of the U. S. Army, it was arranged that general medical and surgical cases should be cared for in the Sternberg Hospital at Manila.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Feb. 1, 1923.

Maudsley Hospital Opened

The Maudsley Hospital, which is the first institution in this country following the lines of the neurologic and psychiatric clinics of the continent of Europe and of America, designed for the treatment and investigation of organic nervous diseases, neuroses and incipient psychoses, has been opened. It was founded by the London County Council on the initiative of the late Dr. Henry Maudsley, an eminent alienist and psychologist, who made a munificent gift for the purpose—$150,000—during his lifetime and left $50,000 in his will. The hospital represents the first provision made by a public body in England for the treatment of early and curable types of mental disorder entirely on a voluntary basis and apart from certified cases. The hospital is intended primarily for the early treatment of mental disease, but it is also intended to afford opportunities for diagnosis of cases in which special facilities are necessary, for observation of cases of unusual scientific interest and for the study of psychologic medicine, especially by physicians who have qualified. There are 157 beds for inpatients, as well as an outpatient department. A course of lectures for the diploma in psychologic medicine under the direction of Sir Frederick Mott has been arranged. Given willingness to undergo treatment, good prognosis is the main feature constituting suitability for admission of patients. In fact, cases without such prognosis will be admitted only on account of difficulty of diagnosis or exceptional scientific interest. Suitable types for admission among neuroses are hysteria, neurasthenia, anxiety and obsessional states, and among psychoses mild phases of the manic-depressive type and those associated with pregnancy and the puerperal period, with postinfective states, with syphilitic brain disease of the interstitial types, with alcoholism and other drug habits, with endocrine disturbances and generally cases exhibiting mental symptoms associated with all forms of definitely bodily disease. Cases of organic nervous disease of most kinds with mental symptoms will be considered as sufficiently interesting to justify admission regardless of prognosis. Unsuitable types (except for diagnosis, research or teaching) are cases of simple congenital defect, epileptic deterioration, general paralysis, advanced dementia praecox, and usually delusional states of more than one year's standing.

An Institute of Animal Pathology at Cambridge

The council of the senate of the University of Cambridge has presented a report on the offer of the ministry of agriculture and fisheries to establish an institute of animal pathology. For a long time it has been the opinion in the departments of agriculture and medicine of the university that provision should be made for the teaching of animal pathology. This opinion is strongly supported by the Right Hon. Sir Clifford Allbutt, regius professor of physic, and by the professor of agriculture. The ministry offers, in the first instance, to provide a capital sum of $150,000 for investment by the university, on certain conditions bearing on the founding of a chair of animal pathology; but it is not in a position to recommend any assistance toward expenditure on the study of animal diseases at Cambridge from funds other than the Corn Production Acts fund, and when this fund is exhausted, their commitments will cease. But when, in 1927 or thereabouts, this fund is exhausted, the government will be prepared to consider, with due regard to the position of national finances and of agriculture, provision for carrying on the scheme. The council is of opinion that the university should be protected from financial risk by the addition of a proviso that it should be under no obligation to continue the institute after 1927 unless satisfactory provision for maintenance is forthcoming, either from the government or from other sources. In the event of failure of financial support, the university will be left with a fully endowed professorship of animal pathology, an extension of the school of agriculture, with sufficient endowment to pay its rates and arrange for more or less temporary buildings. The council recommends acceptance of the scheme subject to the conditions mentioned.

Plan for a World List of Scientific Periodicals

At a meeting of the Conjoint Board of Scientific Societies, a definite constitution was given to a scheme to prepare and issue a list of all scientific periodicals containing the results of original research, with an indication of the libraries in Great Britain where they may be consulted. There are many thousands of such periodicals written in many languages, printed in almost every civilized country, and produced at different prices and intervals. No accurate list of these exists; no single library contains even a large proportion of them; there is much overlapping, and many periodicals are not known to reach this country. An influential committee representing different branches of science has been arranging for the preparation and publication of a complete list. The trustees of the British Museum, recognizing the importance of the work, have consented to allow the preparation of the list to be undertaken by the staff of the keeper of printed books. Material has been sent in by many scientific societies and libraries, and it is hoped that the list will be printed before the end of the year. As a result of a preliminary circular, between 300 and 400 copies have been subscribed for at $10 each. The Carnegie United Kingdom

Trust has guaranteed the cost of publication up to $5,000 on condition that libraries at a larger number of centers in Great Britain than was originally intended be included.

The Investigation of Distemper

The *Field*, a journal devoted to country life, is inaugurating a fund for investigation of the cause of distemper in dogs. It appeals for support, either in the form of one donation before March 1 or an annual subscription for three years beginning on that date. After the three years the position will be reconsidered, and it will be decided whether any further subscription is necessary. The Medical Research Council has promised cooperation and the use of its farm laboratory, which is under the direction of a skilled veterinary pathologist. Promises of collaboration and assistance have also been received from France and the rest of Europe, and particularly from the United States and the various dominions of the British Empire. Individual research is by no means a novelty in the long history of distemper. But by the centralizing of effort over so large an area, by avoidance of overlapping and by cooperation of the medical and veterinary professions, it is hoped to make greater progress than has been achieved before. Any advance in our knowledge of distemper will probably involve a similar advance in the power of controlling similar diseases in man. It is estimated that the loss caused by the ravages of the disease in dogs amounts to several million pounds a year. A bulletin of the progress made will be issued regularly to subscribers and to the press.

The Position of Physicians Under the Dangerous Drugs Act

The Dangerous Drugs Act, which was passed in order to prevent the abuse of drugs by addicts, has been described in previous letters to THE JOURNAL. Obligations are imposed on physicians in regard to giving prescriptions and keeping records. The Home Secretary, whose department administers the act, has issued regulations as to inspection. At first a policeman, acting under authority, could demand to see a physician's drug books, but the Home Secretary has now decided that inspection can best be carried out by health officers. This new regulation is regarded by the profession as less irritating, though not without objection, for it has been pointed out that the health officer may possibly be a rival practitioner with a right to enter premises without warning, to whom the books and other circumstances of an opponent would be thus thrown open. All prescriptions containing a dangerous drug must be in writing, dated, signed with the name and address of the physician, and must state the name and address of the patient, and the total amount of the drug to be supplied on the prescription. Physicians who dispense medicine must keep registers both of purchases of drugs and of their supply to patients. A physician who infringes any of the regulations is liable to a fine of $1,000 or to imprisonment for six months. Further, the Home Secretary has power after conviction to withdraw from a physician his authorization. The effect would be to deprive him of his right to be in possession of or to supply drugs.

A Well-Documented Methuselah

Under this title, Donald MacKie, deputy registrar-general, Bureau of Vital Statistics, Edmonton, Alta., records in the *Lancet* the death of William Kennedy of Holden, which has been registered in his department. His age is given as 125 years, the primary cause of death as "senility," and the contributory cause as "exhaustion." On investigating the dates, Mr. MacKie got the following information from the son of the deceased: "He was baptized, Sept. 25, 1802, near Enniskillen, Ireland, by the Rev. John Richardson, vicar of the parish, and is the son of Thomas and Margaret Kennedy of Glenvannon. I personally copied it from the original in 1898. He had seven brothers and four sisters, and one of the latter was alive two years ago, and was senior to the deceased. He shaved without glasses two weeks ago, and until lately could read without glasses. He recited long passages of scripture within four days of his death, and passed away almost imperceptibly."

A National System of Registration of Disease

At the Royal Statistical Society, Dr. R. Dudfield advocated the establishment of a national system for the registration of disease. He said that though much attention had been given to epidemic diseases, there was a mass of disablement treated in hospitals and other institutions, of which no study on a grand scale had been attempted. The research work which was going on was too piecemeal in character. Data need bringing together from all institutions, to be collated and analyzed by a central body of statisticians with medical experience.

PARIS

(From Our Regular Correspondent)

Jan. 26, 1923.

The Centenary of the Death of Jenner

The Academy of Medicine commemorated with appropriate ceremonies the centenary of the death of Jenner. A commemorative exhibition of documents connected with Jenner and the earliest period of smallpox vaccination was held, on this occasion, at the headquarters of the academy.

Some Criticisms on Modern Medicine

As he was about to retire from active duty, Dr. X. Arnozan, professor of clinical medicine at the Faculté de médecine of Bordeaux, gave a farewell lecture, in which he compared modern medicine with that in vogue fifty years ago. While unsparing in his criticisms of the medicine of the past, Arnozan also condemned contemporaneous medicine. He reproached it for not taking any particular account of the natural course of diseases. The belief seems to be prevalent that a disease cannot be cured unless it is treated with a specific. Another criticism of contemporaneous medicine is its too great multiplicity or complexity; the overdoing of specialization and the undue number of physical examinations to which patients are consequently subjected. There are, in fact, too many specialists. Finally, and chiefly, Arnozan arraigns modern medicine for being overready to accept new remedies. As soon as a new remedy is put on the market, everybody hastens to prescribe it, without waiting for sure evidence that its use is really beneficial. Then, after a few years, a few months or merely a few weeks of popularity, the new remedy is discarded, leaving the memory of useless, and sometimes, unfortunately, of dangerous prescriptions. Arnozan regrets particularly that, in the application of new remedies, we often lose sight of the fact that a given remedy, excellent though it may be to combat the manifestations of an infectious agent in one portion of the organism, may be absolutely incapable of influencing conditions in other portions.

Collection of Public Health Statistics in France

I mentioned in a previous letter the critical study of Dr. Raoul Pacaud on the public health statistics of France (THE JOURNAL, Dec. 30, 1922, p. 2244). The question has been taken up also by Drs. Louis Martin and E. Briau, and they rendered a report on the subject to the ninth Congress of Hygiene, recently held at Paris. This congress, considering the fact that hygienists need to have access to public health statistics which are easily utilizable and always up to date, passed a resolution demanding that (1) death certificates

shall be obligatory and shall be executed by physicians (as far as possible, by the attending physicians) on an official blank giving a list of questions drawn up by the Conseil supérieur d'hygiène; (2) these official blanks, when filled out, shall be delivered at the *mairie* (mayoralty house), whence they shall be promptly sent to the departmental medical inspector of public health, who will each day classify the statistical information contained therein; (3) a condensed report of the statistics of each month shall be sent by the departmental medical inspector to the minister of public health, whose duty it shall be to see that the statistical tables are kept up to date and that the departmental reports are communicated to the *Journal officiel*, and (4) an earnest appeal should be made to practitioners, through the intermediation of their associations and "syndicates," in order that, guarantees being furnished that privileged communications shall not be violated, they may give whole-heartedly and without mental reservations their complete and hearty cooperation toward securing reliable death certificates.

Antivenereal Instruction

Dr. Julien, an army physician, recently presented to the ninth Congress of Hygiene a communication on antivenereal instruction as given in educational institutions for young men. In 1921, Jullien instituted in the boys' college of his city a series of lectures on public health, which he closed with a talk on "The Sexual Life and Its Dangers," to which only seniors who were candidates for the bachelor's degree were admitted. None of the boys' parents raised any objections, while most of them expressed their appreciation of his endeavors. In 1922, parents requested that he should give again the talk he had given the previous year for the older boys. These results seemed to the congress sufficiently encouraging to prefer a request to the minister of public instruction to establish as a regular routine in secondary schools, and in the beginning classes of higher institutions, sex education and antivenereal instruction, to be given by a competent physician and reserved for pupils above 16 years of age.

Taxes Imposed on Sanatoriums

The tax administration has of late made the claim that physicians who are directors of sanatoriums are required to pay the 8 per cent. tax on industrial and commercial profits, instead of the 6 per cent. tax that is levied on the profits of the so-called liberal professions. An alienist who directs personally a sanatorium was addressed thus: "You are conducting a *pension*, since you are hospitalizing a certain class of patients in a special establishment, where they may enjoy calm, rest and fresh air, while, at the same time, they receive the care appropriate to their condition. You furnish them also board and lodging, heat, light and domestic service. Would you deny that these are acts identically the same as those performed by persons pursuing a purely commercial profession? It would seem that you should be taxed as one deriving commercial profits." The council of prefecture (a tribunal in each department of France, which assists the prefect in his administration) of the department of the Seine, with which the physician who had been thus taxed filed a complaint, decided the question quite differently. It rejected the claim of the fisc and brought out the fact that the profession of medicine "consists essentially in caring for a certain category of patients. The acts in question constitute the exercise of the purely liberal profession of a medical alienist in treating his patients. Again, providing patients with board and lodging, heat, light and domestic service appears to be a necessary consequence and only accessory or supplemental to the regular applied treatment, and therefore cannot and does not change the character of the profession exercised. . . ." The council of prefecture decided that the physician had been wrongfully subjected to the tax on commercial profits.

In an additional instance, M. Grinda, member of the chamber of deputies, presented to the minister of finance the question: If two doctors of medicine have formed a partnership to practice their profession in common, and, in pursuit of this purpose, have contributed to a common fund to develop the possibilities of a sanatorium (founded, originally, by one of the partners, before a partnership was entered into), which they manage themselves and in which they give their personal attention to the patients who entrust themselves to them, are they subject to the tax on industrial and commercial profits, even though they employ a domestic and attending personnel, and are aided in the exercise of their profession by a physician who receives a fixed salary and, in addition, certain supplementary fees, varying in amount? The minister of finance replied:

> Physicians who are directors of a sanatorium and give personal attention to patients who are under treatment must, if the principal purpose of their enterprise lies in the practice of their art, be regarded as devoting themselves solely to the practice of medicine, and therefore subject, as regards their total profits from their profession, to the tax on profits from noncommercial professions, even though they employ a domestic and an attending personnel attached to the establishment, and though they make use, accessorily, of the services of a salaried physician. On the other hand, if their profits are derived chiefly from the furnishing of board and lodging to the boarders in the sanatorium of which they are directors or from the work of a confrère to whom is entrusted the largest part of the care required by the patients, the operations in which they are engaged take on the character of a commercial enterprise, and the profits they derive therefrom must be subjected, in their totality, to the tax on industrial and commercial profits.

Hospital Ships in Time of Peace and in Time of War

Dr. Chastaing, surgeon-general of the navy, holds *(Archives de médecine et de pharmacie navales)* that a hospital ship should be, above all, a hospital. It should offer the same resources and give the same care and attention to patients that a hospital on land affords. To accomplish this, the first essential is to have wards in which the beds are conveniently arranged, preferably in a single row. Superimposed beds (double deckers) should be abolished. Separate isolation wards should be provided for patients with contagious diseases, tuberculosis and dysentery, and for psychiatric and for hopeless cases. Almost all the wards should have an adjoining room in which patients may be examined and treated without being exposed to the gaze of the other inmates of the ward. A special room for the use of the nurses should also be provided. There should be two operating rooms, a room for sterilization, a roentgenographic room, a pharmacy with an analytic laboratory, a morgue with a port-hole for burial at sea, and storerooms for hospital material and patients' effects.

A separate mess should be provided for ambulant patients. After meals have been served, the mess halls may be used as rest or lounging rooms. On the bridges, open spaces or passages roofed in with glass may be utilized as a promenade for convalescents or as places where patients may be given an airing or exposed to the sun.

Adjoining the several wards, there should be ample facilities for shower baths. A delousing room, a sulphuration room and steam dryers for clothing should be provided. Cold-storage rooms are indispensable for the preservation of meats and fresh foodstuffs. It is not out of place to have a morgue with a refrigerating chamber for the preservation of cadavers, such as was installed, about fifteen years ago, on board the American hospital ship *Relief*.

The medical personnel of a hospital ship should be sufficiently large and so habituated to life at sea as to be in a position to face any situation that may arise at any time. In regard to the number of nurses necessary, from 8 to 10 per cent. of the bed capacity of the hospital constitutes an average estimate.

In time of war, hospital ships may not be used for any purpose other than as hospitals. The chief surgeon should be on board the highest representative of authority, charged with the execution of orders that he receives directly from higher authorities, and not dependent on the captain. On board mixed transports, the medical director should be the supreme authority in the hospital section.

BELGIUM

(From Our Regular Correspondent)

Jan. 20, 1923.

Dyspnea and Pneumothorax

At a recent meeting of the Academy of Medicine, Dautrebande and Spehl presented an important study on the causes of dyspnea and of death in open pneumothorax. They conclude that surgical pneumothorax induces dyspnea owing to anoxemia, and that this condition, characterized mainly by a superficial and rapid respiration that soon becomes dangerous, can be combated by the administration of oxygen.

Spermatic or Seminal Cysts

Before the Belgian Urologic Society, Dr. Cantinaux presented recently the results of his researches on the origin of bilateral spermatic cysts, and discussed their relationship with syphilis.

Drainage in Empyema

Speaking before the Belgian Surgical Society, Willems stated that he had tried several times reversible drainage, but that he had obtained only mediocre results; for generalized purulent pleurisies, at least, he regards it as insufficient. In the case of patients confined to the bed, he performs a posterior thoracotomy (Walther method) in the costovertebral groove at the level of the tenth or eleventh intercostal space. In the less grave cases, when the patient can sit up early, Bérard's technic is advantageous: lateral thoracotomy at the anterior axillary line, resection of the seventh rib with insertion, the patient sitting upright, of a drain at the lowest point. The main point in order to prevent the formation of pleural fistulas is to use short drains that do not penetrate the pleura but are just long enough to keep the wound in the thorax open.

Poisonous Mushrooms

Before the Société royale des sciences médicales et naturelles of Brussels, M. Dekeyser presented a proposal concerning the control and supervision of the sale of mushrooms. After some discussion, the following resolution was unanimously adopted:

The Société royale des sciences médicales et naturelles of Brussels, in view of the dangers that the public incurs owing to the absence of control of the sale of mushrooms, has passed a resolution favoring a strict supervision of this traffic. It has decided to send the text of this resolution to the provincial and communal authorities, the Conseil supérieur d'hygiène and also to the public press.

Thymectomy

Before the Société médico-chirurgicale of Brabant, Dr. Marique presented the case histories of fifteen children on whom he has operated for hypertrophy of the thymus. He performed an extracapsular thymectomy according to the technic of Veau and Olivier. The operation is exceedingly simple. The skin incision is as for a low tracheotomy, slightly inclined downward. Keeping precisely on the middle line, the operator, pushing the sternothyroid muscle aside, reaches the thymic capsule, which, when opened, allows the two lobes of the thymus to be easily enucleated. Marique stated that the feeling of suffocation, which constitutes the main indication for the operation, is immediately relieved, and that the other symptoms likewise disappear very soon.

The patients operated on, when seen at irregular intervals, presented no anomalies of weight or height, which is not surprising, since thymectomy is never total. By reason of the simplicity of the operation, it may be regarded as a competitor of radiotherapy, and it has the advantage that it can be performed in remote places or in urgent cases.

Domiciliary Treatment in Mental Cases

Dr. Boulenger presented to the Société de médecine mentale a communication that is of interest to psychiatrists and legislators alike; for, since the passage of the revised act of June 14, 1920, domiciliary sequestration has passed beyond the stage of mere care taking, but has not as yet developed to the point that it constitutes a consistent means of treatment in mental cases over which judicial authority exercises supervision and control. Sequestered mental patients should not be dependent solely on the devotion of relatives or on the constantly varying prejudiced opinions that they may entertain with respect to those mentally defective. These patients usually receive good physical treatment, but they lack the psychiatric treatment needed. It is now proposed that domiciliary sequestration shall be organized on a scientific and medical basis. This will require the creation of a special medical service and a special nursing personnel in each province or judicial district, the medical service to consist of one or more psychiatrists, aided by visiting nurses who have received special instruction, whose duty it shall be to advise, aid and supervise the mentally defective who are sequestered, and to counsel with the family that has assumed their care, in regard to their treatment. This seems to be the only way to render the act of 1920 effective.

The Proper Time for Osteosynthesis

M. Lambotte, the first proponent of osteosynthesis, discussed recently before the Société belge d'orthopédie the results of his experience with regard to the choice of the proper time for such intervention in fractures. Lambotte holds fast to his principle of not operating on diaphysial fractures under one to two weeks after the traumatism. He has observed that fractures operated on immediately show unmistakable evidence of retarded consolidation. He attributes this to the fact that the periosteum, during the first few days following the breaking of the bone, has not at yet regained its embryonal character. Immediate intervention is indicated only in case the bone fragments protrude through the skin, in grave arterial lesions, or in impingement of nerves. Epiphysial fractures, especially in children, are not subject to this rule and may be operated on at once; the same is true of fractures of the short bones.

BERLIN

(From Our Regular Correspondent)

Jan. 27, 1923.

The Struggle Between the Health Insurance Societies and the Physicians

Many of the health insurance societies, owing to the bad economic conditions obtaining generally, are in financial straits. In compliance with governmental decrees, they have been compelled to increase the sick benefits; likewise their disbursements for medical treatment and medicines have been augmented, but after the recent avalanche of high prices, the reaction to which, in the form of higher wages, came but slowly, the capitation fees paid by the members of the health societies were not raised for some time, and the supplementary charges are, in many instances, several months in arrears. Owing to the heavier drains on their treasuries, together with diminished receipts, the financial condition of many health insurance societies has become so desperate that they have been compelled to petition loans from the central government, the governments of the federal states or the municipalities. The directors of the *Hauptkrankenkassenver-*

band (federation of public health societies, which includes district, industrial and provincial public health societies) immediately took advantage of these admittedly deplorable conditions to launch an attack against the principle of free choice of physician, which, for several decades, has been a bone of contention between them and the opposing organization of physicians; namely, the Leipziger Verband (the Leipzig league). As the most essential means of accomplishing their purpose, they demand the abolition of Section 182 of the federal act governing the administration of social insurance. This section provides that members of the health insurance societies, if they become ill, must be given not only sick benefits but also free medical treatment, free medicines and, in short, everything needed for their recovery. The directors of the federations of health insurance societies now demand that, in view of their depleted finances, as the main cause for which condition they allege the free choice of physician, free medical treatment, etc., be abolished, and that members who are taken ill shall receive solely a definite sum per day as a sick benefit. It is evident that the main purpose of social health insurance would be thwarted by any such modification of the law; for, especially at the present time, when workmen and employees, owing to the prevailing economic distress, often have not sufficient means at their disposal to buy the necessaries of life, the sick members of the societies would frequently be tempted to divert to other purposes the sick benefits they received, instead of providing for themselves the needed medicines and medical treatment. Many of them would resort to quacks instead of consulting reputable physicians, which would invalidate one of the main purposes of health insurance. That the income of physicians would be thereby much impaired goes without saying, and, since, at present, a large part of their practice is derived from the health insurance societies, the physicians are quite justified, for material reasons, in their opposition to the proposal of the directors of the health insurance societies. Another matter that has a wide bearing on the situation is the fact that, just recently, the limit of income under which all persons are obliged to take out health insurance; that is, become a member of one of the health insurance societies, has been raised to 2,400,000 marks. It is fortunate that our leading statesmen are fully alive to the true situation of affairs, and it is pleasing to record that, a few days ago, the conferring committee of the reichstag rejected the demand of the directors of the health insurance societies for the abolishment of Section 182.

Personal

Professor Heubner, the senior German pediatrician, who for many years was head professor of pediatrics on the University of Berlin Medical Faculty, and who, since his retirement, has been living in a suburb of Dresden, celebrated, January 21, in the full vigor of health, his eightieth birthday.

The Heubner Prize, which was created in honor of Heubner's seventieth birthday and which is awarded, every three years, for the best work done in the field of pediatrics, has just been bestowed on Dr. Degkwitz, assistant physician in the Munich University Children's Clinic, for his application of an antimeasles serum. Degkwitz himself discussed the nature of his serum and the results he has secured with it in the *Deutsche medizinische Wochenschrift* (**48**:26 [Jan. 5] 1922). His results have since been confirmed by all German children's clinics.

Dr. Franziska Tiburtius, a woman physician of Berlin, celebrated, January 24, her eightieth birthday. She became at first a governess and teacher, and took up medicine later in life. As Germany, at that time, offered no opportunities to women desirous of studying medicine, she entered the University of Zürich, where she studied from 1871 to 1875. After taking her degree in Zürich, she served for a time in the Women's Hospital in Dresden, under Professor Leopold, and then, in 1877, settled in Berlin. When later, through her work, she became known to a large circle of women, she founded, together with another woman physician, Emilie Lehmus, who has since died, a policlinic, and afterward a hospital for women. This highly esteemed physician, who was the first champion of woman physicians in Germany, received on her eightieth birthday a hearty ovation at the hands of the woman physicians of the city.

Creation of a Government Institute for Medical Research

The Emperor William Academy for medicosocial education, which was formerly the Emperor William Academy for the advancement of military medicine, is to be transformed into a government institute for medical research. This large institute, which was completed just a few years before the war, is to turn over its excellent laboratories and its library, which is probably the largest medical library in Germany, to the service of scientific medical investigation. Further details will be given when the plans for the transformation have been fully matured.

Increase of Alcoholism and Drunkenness

Prof. E. Meyer, director of the Königsberg Psychiatric University Clinic, states with regret, in the *Deutsche medizinische Wochenschrift*, January 5, that alcoholism and its sequels, which, during the war, for evident reasons, showed a decrease, have again begun, during the last few years, to rear their head. In his own clinic, the percentage of patients admitted for chronic alcoholism showed a marked increase during the fiscal year 1921-1922 (after the percentage for the year 1918-1919 had trebled). Of 795 men, 100, or 12.58 per cent., and of 503 women, 11, or 2.18 per cent., were admitted for alcoholism. Furthermore, in the case of thirty-three men and two women, the tendency to drink to excess constituted an essential factor in the causation of their mental derangement. Professor Meyer advocated that Germany should adopt regulations similar to those in force in the United States. It is true, that in the United States viniculture does not play as distinctive a rôle as it does in Germany, and the financial difficulties that stand in the way are harder for us to overcome. In spite of that fact, what needs to be done, should be done. For example, the production of beverages with high alcohol content, such as brandy, liqueurs, strong wines and strong beers should be prohibited, and the sale of alcoholic beverages in general should be strictly regulated.

VIENNA

(From Our Regular Correspondent)

Jan. 6, 1923.

Infant Mortality in Rural Districts

The Austrian Eugenic Society (Oesterreichische Gesellschaft für Bevölkerungs Politik) gets reports from all parts of the country from competent observers, with a view of controlling the development of the birth rate and public health. Two medical men, Dr. Narceshuber and Dr. Gerhardinger, have studied for the society the conditions prevailing among the agricultural population of Upper Austria and the Tyrol, two typically conservative and old fashioned provinces, 90 per cent. of the population being peasants. Their report is a shock to all persons accustomed to the conditions of poverty in towns and cities. Infant mortality and infant morbidity is, in our minds, inseparably connected with poverty and want. And it is a revelation to city dwellers to learn that, among peasants who for many years have enjoyed excellent incomes and have hoarded treasures and do not

even know from hearsay the lack of nourishing food, infant mortality exceeds by far the highest statistics for Vienna, with its hundreds of thousands of underfed children.

In the capital, 9.9 per cent. of all children born in 1920 died within their first year of life. In upper Austria, the figure was 21.1 per cent., in Pyrot, 27 per cent., while in Styria and Carinthia, also rural provinces, the rate was 20 and 17.3 per cent., respectively. In the richest rural district of Austria, where a population of 767,000 exists, the average was 27.6 per cent., while in some villages 40 and 50 per cent. of all children died before the age of 12 months. In one hamlet (667 population), of seventy-six new-born babies, only one was alive after a year. In another district of the same province, a purely industrial one, where in 1913 there was an infant mortality of 17.6 per cent., it rose, in 1917, to 21.6 per cent., but it stands now at 19.1 per cent. What is the reason of the remarkable difference between the two populations? Hereditary influences can be ruled out, as only one child is born dead for each thirty-nine born alive, although syphilis among infants is now more frequent, owing to the effects of the war. The only real cause is the manner of rearing children. The main reason for the excessive death rate among young infants is artificial feeding. Among our peasants, it is practiced from the first day of life. An inquiry among the midwives of these districts showed that barely 70 per cent. of these infants are ever given the breast. This is not due to inability of the peasant women to nurse their infants or to any defect on the child's part, but to the absence of knowledge of the importance of breast feeding, and to old customs. Farinaceous food and cabbage and oatmeal are included in the daily fare of the new-born, and bottle feeding is practiced to excess, without the slightest attention to sterilization of the bottle or the contents or the quantity, or periods of rest. There is no trace of efficient nursing, no knowledge of the most primitive hygienic principles.

Tuberculous persons, who are very numerous among the rural population in spite of all the hygienic possibilities of fresh air and good food, are allowed to mix freely and play with even the youngest children. Naturally, whole families are thus extinguished, once an infection is started. Alcohol, in the shape of cider, is not withheld even from infants; and superstition is paramount even among the midwives, in an amazing degree. The reporters point out that the rural districts are suffering from an alarming want of primitive knowledge, owing to the oldfashioned methods of government and absence of schools, while the ceaseless efforts of physicians in the towns have influenced nearly all mothers to give their babies the breast. Perhaps the lack of other food and of milk is also a factor. The rich peasant mother shrinks from her maternal duty because of laziness and of bad examples. Here is a most fruitful field for the intervention of the board of health, and in this country, where religion plays such an important part among the peasant population, influence will have to be brought to bear on the Roman Catholic church, to induce its priests to act as apostles of modern hygiene in these rural provinces. Otherwise, race suicide is an absolutely sure consequence.

Marriages

EDWARD MITCHELL HANRAHAN, JR., to Miss Evelyn Barton Randall, both of Baltimore, February 3.

LEO W. ZIMMERMAN, Timblin, Pa., to Miss Katherine Zapp of Louisville, Ky., January 31.

CORTLAND MYERS to Miss Anne Esther Hughes, both of Los Angeles, January 26.

Deaths

John R. Hoffman ✠ Wilmette, Ill.; Northwestern University Medical School, 1891; member of the American Academy of Ophthalmology and Oto-Laryngology and vice president of the Chicago Ophthalmological Society; secretary and professor of ophthalmology at the Chicago Eye, Ear, Nose and Throat College; for twenty-five years superintendent of the Chicago Eye, Ear, Nose and Throat Hospital; aged 57; died, February 19, of thrombosis.

Clement Belton Lowe, Vineland, N. J.; Jefferson Medical College of Philadelphia, 1887; also a pharmacist; emeritus professor of materia medica at the Philadelphia College of Pharmacy; at one time president of the Pennsylvania Pharmaceutical Association and vice president of the American Pharmaceutical Association; editor of *Plants of the Philippines* and other botanical works; aged 76; died, February 6.

William Augustus Hardaway ✠ St. Louis; St. Louis College of Physicians and Surgeons, 1870; Missouri Medical College, 1873; formerly professor of diseases of the skin at Washington University Medical School, St. Louis; at one time president of the American Dermatological Association; author of "Essentials of Vaccination" and "A Manual of Skin Diseases"; aged 73; died, February 3.

Mary Thomas Miller ✠ Philadelphia; Woman's Medical College of Pennsylvania, Philadelphia, 1899; member of the Obstetrical Society of Philadelphia and the Philadelphia Pediatric Society; on the staff of the West Philadelphia Homeopathic Hospital, where she died, February 8, from pneumonia, aged 53.

Clarence M. Slack, St. Petersburg, Fla.; Jefferson Medical College of Philadelphia, 1865; member of the Florida Medical Association; veteran of the Civil and Spanish-American wars; formerly superintendent of the Florida Baptist Children's Home, Arcadia; aged 81; died, January 28, from senility.

David C. Peyton ✠ Jeffersonville, Ind.; University of Louisville Medical Department, Louisville, Ky., 1886; member of the Medical Society of Virginia; veteran of the Spanish-American and World wars; superintendent of the Indiana Reformatory; aged 62; died, February 6, from pneumonia.

Rufus Joshua Cassel, Mount Vernon, Wash.; University of Minnesota Medical School, Minneapolis, 1901; member of the Washington State Medical Association; served in the M. C., U. S. Army, during the World War, with the rank of captain; aged 48; died, January 30, from heart disease.

Richard J. Hill ✠ Minneapolis; Jefferson Medical College of Philadelphia, 1875; member and at one time president of the Minnesota State Medical Association and the Hennepin County Medical Society; formerly on the staff of St. Mary's and Asbury hospitals; aged 69; died, February 2.

John Miles Martin, Grove City, Pa.; Bellevue Hospital Medical College, New York, 1874; member of the Medical Society of the State of Pennsylvania; served five terms as state legislator; veteran of the Spanish-American War; aged 74; died, Feburary 5, following a long illness.

Joseph Coles Brick ✠ Philadelphia; Jefferson Medical College of Philadelphia, 1894; member of the American Proctologic Society; associate professor of proctology at his alma mater; on the staff of the Jefferson Hospital; aged 61; died, February 4, from carcinoma.

James William Hinckley ✠ Boston; Tufts College Medical School, Boston, 1898; formerly instructor of gynecology at his alma mater; member of the Boston Society of Medical Sciences; on the staff of St. Elizabeth's Hospital; aged 65; died suddenly, February 7.

William Napier Keefer, Toronto, Ont., Canada; McGill University Faculty of Medicine, Montreal, Que., 1869; L.R.C.S., Edinburgh, and L.S.A., London, 1869; served in the British army during the Afghan War, in India and Egypt; aged 78; died, January 27.

Isaac Arthur Harris, Weaverville, N. C. (licensed, North Carolina, 1885); member of the Medical Society of the State of North Carolina; Confederate veteran; president of the Farmers' and Traders' Bank; aged 84; died, December 29, from cerebral hemorrhage.

Israel Lurier, New York; Medical School of Harvard University, Boston, 1914; served in the M. C., U. S. Army, dur-

ing the World War, with the British and the American armies; on the staff of the Bellevue Hospital, where he died, February 5, aged 34.

Edward S. King, Bluff City, Tenn.; Hospital College of Medicine, Medical Department Central University of Kentucky, Louisville, 1890; member of the Tennessee State Medical Association; aged 57; died, December 10, from cerebral hemorrhage.

Victor Oscar Saphro ✠ Los Angeles; University of Colorado School of Medicine, Denver, 1910; lieutenant, U. S. Naval Reserve Force; aged 37; died, February 3, at the Fitzsimons General Hospital, Denver, from bronchopneumonia.

Albert Butler Stone ✠ Lamar, Mo.; Northwestern Medical College, St. Joseph, 1890; president of the Barton County Medical Society; also a druggist; aged 73; died, February 3, at Pittsburg, Kan., from carcinoma of the prostate.

Richard Gay De Puy, Jamestown, N. D.; University of Michigan Homeopathic Medical School, Ann Arbor, 1881; member of the North Dakota State Medical Association; aged 67; died, February 4, from influenza.

Joseph Adkemar Jeannotte ✠ Leadville, Colo.; Laval University Faculty of Medicine, Quebec, Que., Canada, 1875; mayor of Leadville; on the staff of St. Vincent's Hospital; aged 68; died, January 31, from pneumonia.

George Bethune Best, Englewood, N. J.; New York Homeopathic Medical College and Flower Hospital, New York, 1887; member, and at one time president of the state board of health; aged 63; died, January 26.

William H. Crow, Pavo, Ga.; Atlanta Medical College, Atlanta, 1895; member of the Medical Association of Georgia; aged 52; died, February 4, at Sylvester, from injuries sustained in an automobile accident.

Isabella Hursen ✠ Chicago; Chicago Physio-Medical College, 1902; formerly adjunct professor of medicine at her alma mater; aged 55; died, February 11, from heart disease, following an attack of influenza.

John H. Rice, Quincy, Ill.; Eclectic Medical Institute, Cincinnati, 1878; Rush Medical College, Chicago, 1898; member of the Illinois State Medical Society; aged 66; died, January 31, following a long illness.

William A. Ross, Forkshoals, S. C.; Southern Medical College, Atlanta, Ga., 1892; member of the South Carolina Medical Association; aged 56; died at Greenville, January 30, from heart disease.

William F. Hoey, Frederica, Del.; Hahnemann Medical College and Hospital of Chicago, 1889; aged 61; died, January 24, at the Homeopathic Hospital, Wilmington, from epidemic (lethargic) encephalitis.

Nelson H. McNew, Carlisle, Ky. (licensed, Kentucky, 1893); former county judge; for twelve years editor of the Carlisle *Democrat;* aged 86; died, December 13, from cerebral hemorrhage.

James Claude Wilhoit, Manhattan, Kan.; University of Louisville Medical Department, Louisville, Ky., 1907; member of the Kansas Medical Society; died, February 17, from pneumonia.

John W. Kidd, Burnsville, W. Va.; College of Physicians and Surgeons, Baltimore, 1884; formerly member of the state legislature; aged 66; died, February 2, from cerebral hemorrhage.

Robert Orrin Burke, Lansing, Mich.; Chicago College of Medicine and Surgery, Chicago, 1915; member of the state board of health; aged 37; died, December 16, from pneumonia.

Milton Emerson Lake ✠ Erie, Kan.; Medical College of Indiana, Indianapolis, 1885; also a druggist; aged 33; died, February 7, from acute dilatation of the heart and pneumonia.

William S. Martin, Tuscola, Ill.; Bellevue Hospital Medical College, New York, 1877; member of the Illinois State Medical Society; aged 85; died, February 5, from senility.

Daniel B. Warren, Wellston, Ohio; Medical College of Ohio, Cincinnati, 1878; member of the Ohio State Medical Association; aged 69; died, February 1, from pneumonia.

James Philip Roy, Richmond, Va.; University of Virginia Department of Medicine, Charlottesville, 1884; member of the Medical Society of Virginia; aged 61; died, January 25.

Marvin Le Roy Smoot ✠ Fayetteville, N. C.; University College of Medicine, Richmond, Va., 1903; aged 46; died, February 6, following a long illness.

William D. Vanderpool, Montesano, Wash.; Missouri Medical College, St. Louis, 1882; also a pharmacist; aged 70; died, December 31, from carcinoma of the stomach.

James Nelson Ayers, Cressey, Mich.; University of Michigan Homeopathic Medical School, Ann Arbor, 1889; aged 65; died recently, from carcinoma of the stomach.

Henry B. Wiggs, Russellville, Ark.; Memphis Hospital Medical College, Memphis, Tenn., 1896; also a druggist; aged 49; died, January 29, at Colorado Springs, Colo.

Joseph Robert Lee Hardesty, Washington, D. C.; Jefferson Medical College of Philadelphia, 1856; Confederate veteran; aged 87; died, February 3, from senility.

Reuben C. Fisher, Belton, Texas; Louisville Medical College, Louisville, Ky., 1893; aged 52; was found dead in his office, January 30, from heart disease.

Edward S. Crump, Detroit; Detroit College of Medicine and Surgery, 1917; aged 33; died, February 2, at the Harper Hospital, from epidemic (lethargic) encephalitis.

Phillip A. Conner, Whitton, Ark. (licensed, Arkansas, 1907); aged 43; died, January 30, from a bullet wound in the brain, presumably self-inflicted.

Sidney Thompson ✠ Humboldt, Tenn.; Vanderbilt University Medical Department, Nashville, 1882; aged 61; died, January 29, from heart disease.

L. C. Downtain, Eastland, Texas; College of Physicians and Surgeons, Keokuk, Iowa, 1881; aged 63; died, February 8, from cerebral hemorrhage.

Hitzel C. Le Blond, McCurdysville, W. Va.; Medical Department of Western Reserve University, Cleveland, 1881; aged 65; died, January 29.

Victor Veranus Thompson, Waldoboro, Me.; Medical School of Harvard University, Boston, 1911; aged 56; died suddenly, January 26, of heart disease.

George Clinton Evans, Tulsa, Okla. (licensed, years of practice); aged 43; died at the Oklahoma Hospital, December 13, from senility.

Francis Ignatius Drobinski ✠ Brooklyn; Long Island College Hospital, Brooklyn, 1906; aged 41; died, February 9, from angina pectoris.

Walter A. Lamont, Denver; Medical Department University of Tennessee, Nashville, 1883; aged 75; died, January 27, at Canon City, Colo.

Henry H. Moorehouse, Toronto, Ont., Canada; Victoria University Medical Department, 1871; aged 76; died, December 23, at Oakville.

Howard Luther Diehl, Gettysburg, Pa.; Hahnemann Medical College of Philadelphia, 1876; aged 64; died, February 2, from pneumonia.

Charles C. Eldred ✠ Joliet, Ill.; Jefferson Medical College of Philadelphia, 1875; aged 73; died, February 4, following a long illness.

Jesse Marvin Williams, Los Angeles; Wisconsin College of Physicians and Surgeons, Milwaukee, 1903; aged 46; died, February 4.

James Wayne Martin, Wynona, Okla.; Barnes Medical College, St. Louis, 1899; aged 48; was shot and killed by bandits, December 1.

Walter Leon Culbertson ✠ Philadelphia; Maryland Medical College, Baltimore, 1911; aged 40; died, February 3, from pneumonia.

Harriett Judd Sartain, Philadelphia; Eclectic Medical Institute, Cincinnati, 1854; aged 93; died, February 8, from senility.

John R. Harwell, Nashville, Tenn.; University of Nashville Medical Department, 1864; aged 86; died, February 7, from senility.

John Hardin Stewart, Sr., Exeter, Ill.; Rush Medical College, Chicago, 1870; died, Feberuary 2, from cerebral hemorrhage.

David Hume Rice ✠ Colorado Springs, Colo.; Missouri Medical College, St. Louis, 1885; aged 67; died, January 25.

A. S. Byrne Nellis, Dayton, Ohio; Chicago Homeopathic Medical College, Chicago, 1882; aged 62; died, January 25.

Noah P. Buskirk, Round Bottom, Ohio (licensed, Ohio, 1896); aged 78; died, January 17, from chronic nephritis.

J. W. Powell, Evansville, Ind.; Louisville Medical College, Louisville, Ky., 1881; aged 77; died, February 1.

Elijah J. Tucker, Oroville, Calif.; American Medical College, St. Louis, 1882; aged 72; died, January 30.

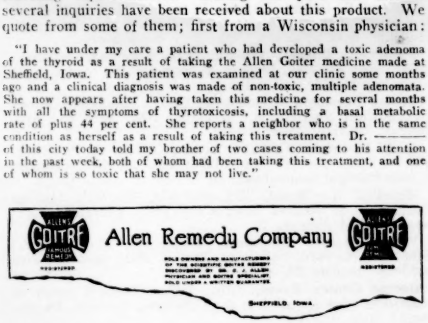
The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

ALLEN'S GOITER TREATMENT

At Sheffield, Iowa, the Allen Remedy Company conducts a mail-order business in "Dr. C. J. Allen's Goiter Treatment." Business is drummed up, apparently, by means of agents and traveling representatives. During the past few months several inquiries have been received about this product. We quote from some of them; first from a Wisconsin physician:

"I have under my care a patient who had developed a toxic adenoma of the thyroid as a result of taking the Allen Goiter medicine made at Sheffield, Iowa. This patient was examined at our clinic some months ago and a clinical diagnosis was made of non-toxic, multiple adenomata. She now appears after having taken this medicine for several months with all the symptoms of thyrotoxicosis, including a basal metabolic rate of plus 44 per cent. She reports a neighbor who is in the same condition as herself as a result of taking this treatment. Dr. ——— of this city today told my brother of two cases coming to his attention in the past week, both of whom had been taking this treatment, and one of whom is so toxic that she may not live."



From a physician in Iowa:

"I wish to secure some information regarding the Allen Remedy Company of Sheffield, Iowa, and especially regarding Dr. C. J. Allen's Goiter Remedy put out by this company. Several patients of mine with different types of goiter have been solicited by a Mr. A. D. Tabor of Cedar Rapids, Iowa, and some of them have asked me for an opinion regarding it."

While a South Dakota physician writes:

"Under separate cover, I am mailing you a bottle of dope put out by the Allen Remedy Co. of Sheffield, Iowa. This has been sold in our community lately as a sure cure of goiter of all kinds. Can you enlighten me as to its relative merits for such a sure fire cure and also what the medicinal ingredients might be?"

According to our records, C. J. Allen of Sheffield, Iowa, died in August, 1917, of tuberculosis. He was graduated by Rush Medical College in 1887. The records fail to show that he was ever a member of his local medical society. The advertising matter put out by the Allen Remedy Company states that C. J. Allen "discovered" his cure some years ago, that its fame began to spread and as a result, "C. J. Allen became a goiter specialist and was recognized as such by many leading medical authorities." This statement, of course, is unqualifiedly false. A careful search of medical literature for thirty years past fails to show that C. J. Allen ever made a single contribution to scientific medical literature.

The "treatment" consists of sixteen four ounce bottles of the preparation, for which $90.00 is charged. Those using the product are told to take a teaspoonful with water after each meal. They are especially instructed to "massage the goiter both morning and evening" and, in black-faced type, are told that "This is very important."

Some of the advertising material put out by the Allen Remedy Company contains a testimonial that is printed under the title "Doctor Recommends Treatment." It purports to be from one "G. W. Lee, M.D." of Sheffield, Iowa, and is dated Oct. 10, 1922. Dr. Lee states that he, too, was graduated by Rush Medical College and has "practiced medicine in Sheffield fourteen years." He states further that he knows "all of the ingredients" in the preparation and assures the public that "there is nothing harmful in this treatment." G. W. Lee is an employee of the Allen Remedy Company and is described as "Head of Medical Advisers' Department." According to our records, George W. Lee was graduated by Rush Medical College in 1869 and went to Sheffield, Iowa, in 1886. A few years later he went to Mason City, Iowa, and later still moved to Wisconsin. At the time the Propaganda department was investigating the itinerant quacks a Wisconsin physician wrote to THE JOURNAL stating that a concern known as the "Northwestern United Doctors" then operating in Wisconsin had one G. W. Lee in charge of one of its offices.

Some original specimens of the Allen nostrum were secured and submitted to the A. M. A. Chemical Laboratory for analysis. The report follows:

LABORATORY REPORT

"Allen's Goiter Treatment is a reddish-brown, syrupy liquid having an acid reaction and an odor of sassafras and wintergreen. No information is given by the manufacturers concerning the composition of the preparation except that the presence of 4 per cent. of alcohol is declared. Alkaloids, benzoates, salicylates, glycerin, emodin-bearing drugs, potassium salts, sodium salts, and calcium salts are absent, or present only in traces. Qualitative tests demonstrate the presence of an ammonium salt in very small amounts, an iron salt (in the ferrous state), iodid ions, sucrose (cane sugar), small quantities of a phosphate, coloring matter and alcohol. The iodid is present partly as ferrous iodid and partly as free hydrogen iodid. The ammonia, the iron and the iodin were determined separately. The iron found was equivalent to about 0.83 gm. of ferrous iodid per 100 c.c. The ammonia found was equivalent to about 0.06 gm. of ammonium iodid per 100 c.c. and the hydrogen iodid was equivalent to about 1.74 gm. per 100 c.c. The alcohol content was 3.98 per cent. Each fluid dram (teaspoonful) of this preparation, therefore, contains approximately 1 grain of hydriodic acid and one-half grain of ferrous iodid.

"From the results obtained it is concluded that Allen's Goiter Treatment consists essentially of ferrous iodid and hydrogen iodid (hydriodic acid) in a colored and flavored syrup."

The profits made from selling four pints of a syrup of ferrous iodid and hydriodic acid for $90.00 must surely not be inconsiderable. This, however, is a minor indictment. The most serious feature of the business is the viciousness of the indiscriminate sale of an iodid mixture to those who may be and are likely to be suffering from exophthalmic goiter. Add to this the pernicious suggestion that the victim should massage the thyroid daily and it is not surprising that physicians are beginning to report serious results from the use of this preparation.

Correspondence

THE EARLIEST RECOGNITION OF APPENDICITIS—AGAIN

To the Editor:—Apparently Dr. R. D. Rudolf of Toronto was the first to call attention to the interesting fact that Lorenz Heister seems to have been the first to describe a case of typical appendicitis, namely, in his account of a post-mortem performed by him publicly at Altdorf in November, 1711. Dr. Rudolf's paper (*Canad. M. A. J.*, May, 1913) reprints in full this curious "Observation CX" from what he says is "a translation by a Dr. Daniel Cox, of London, under date of 1755, and the book is entitled 'Heister's Cases in Surgery.'" Dr. Rudolf gives the title in this form because the title-page and following leaves were lacking in his copy (which he kindly lent to Sir William Osler, who showed it to me when I showed him the original). In fact, the English title-page reads:

MEDICAL, CHIRURGICAL, AND ANATOMICAL CASES AND OBSERVATIONS. By Laurence Heister, M.D., Senior Professor of Physic and Surgery in the University of Helmstadt, first Physician and Aulic Counsellor to his serene Highness the Duke of Brunswick, Member of the Imperial Academy of Sciences, and Fellow of the Royal Societies of London and Berlin. With Copper-Plates, illustrating the Descriptions in the respective Cases. Translated from the German Original By George Wirgman. London: Printed by J. Reeves, For C. Hitch etc. MDCCLV.

It is a large quarto of more than 700 pages. The preface is by Dr. Shaw, and the introduction by Daniel Cox, who declares his ignorance of German. It is worth noting that Lord Lister owned a copy of this translation (No. 1285 in Catalogue 733 [1913] of Henry Sotheran & Co., London), and may have read the passage in question.

Dr. Rudolf does not attempt to give any information whatever in regard to the German original, which is, of course, necessarily earlier than the English translation. Its title-page reads:

D. Laurentius Heisters . . . Medicinische Chirurgische und Anatomische Wahrnehmungen Nebst Kupfern und gedoppelten Registern. Mit Königl. Pohlnisch und Churfürstl. Sächsischem allergnäd. Privilegie. Rostock, verlegts Johann Christian Koppe. 1753. Quarto, with Heister's portrait, engraved by A. Beck.

A second volume appeared in 1770, four years after Heister's death.

In the original the appendicitis observation is numbered 111 instead of CX. Dr. Erich Ebstein of Leipzig has recently given a photographic facsimile of the page (194) in question, so that it is now readily accessible to all. It appears in *Virchows Archiv für pathologische Anatomie* **226**:98, 1919. Ebstein thanks me there in a note because it was I who first called his attention to the passage in Heister, and he then (1914) wrote to me asking for the precise reference. The number of the *Canadian Medical Association Journal* containing Dr. Rudolf's article was handed to me in the office of the editor, my friend Dr. William W. Francis, in May, 1913. Within a few days I secured a fine copy of the original edition of Heister's book, and later obtained the English translation also. The original was lent to Dr. Howard A. Kelly in 1914. Both original and translation were presented to the "Bibliotheca Osleriana" in 1921, and thus will go to the medical faculty of McGill University.

I should perhaps mention that the New York Academy of Medicine owns an elaborate and valuable manuscript bibliography of appendicitis by the late George M. Edebohls. In this some one has added in pencil a reference to Heister, 1755, p. 136, Case 110.

Leonard L. Mackall, Savannah, Ga.

ORGANIZATION OF WOMAN'S AUXILIARY TO THE AMERICAN MEDICAL ASSOCIATION

To the Editor:—Since the last session of the American Medical Association, when the organization of a Woman's Auxiliary of the American Medical Association was authorized, it has been gratifying to note the progress made. Several states have been organized and are on a working basis. Many others are in the process of organization, having given favorable opinions, so that by the time of the San Francisco session, it is hoped there will be a large number of states organized, with delegates and representatives in attendance.

The Woman's Auxiliary of the American Medical Association is no longer a dream, but a realized entity, and it is felt that if all the states knew that the others were endorsing and furthering the movement, some prejudices could be removed on the ground that it is an experiment, for such is far from the case.

This means is taken to give any state, desirous of organization, an opportunity to get any information that may be needed, should any have been overlooked, in order that there may be time to organize and have representatives at the session of the American Medical Association in San Francisco; for it is an assured fact that a large proportion of the states will be represented.

Should any desire information, the corresponding secretary, Mrs. H. L. D. Kirkham, 3711 Mount Vernon Street, Houston, Texas, will be very glad to furnish the information needed, and be of any assistance possible in organization.

Mrs. H. L. D. Kirkham, Houston, Texas.
Corresponding Secretary, Woman's
Auxiliary to the American
Medical Association.

THE PREVENTION OF CONCEPTION

To the Editor:—The Chicago Gynecological Society is desirous of giving proper publicity to its present stand on the subject of the regulation of conception. The following paragraphs are, therefore, submitted for publication:

In accordance with a resolution passed by the Chicago Gynecological Society, the undersigned committee sent to all of the members of the society a questionnaire dealing with various phases of the general subject of regulation of conception. The replies were analyzed and submitted to the society at its regular business meeting of January 19, and the society unanimously approved of the following conclusions:

1. It is against public policy that information as to contraceptives should be given to the general public.

2. Information as to the prevention of conception should be given wherever indicated to wives and husbands by physicians, either privately or in existing clinics and dispensaries.

3. Special clinics for the dissemination of this information are neither necessary nor desirable, nor should nursing organizations be utilized to give out such instructions.

4. Risk to the mother, based on ill health, whether due directly to existing disease or to the drain of too frequent childbirth under unfavorable home conditions, is the essential indication for instruction in prevention of conception.

5. All mechanical devices used by the wife, as well as strong chemical douches, are discountenanced.

Rudolph W. Holmes, M.D.,
Joseph L. Baer, M.D.,
N. Sproat Heaney, M.D.,
Chicago.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

DANGERS OF WORK WITH ROENTGEN RAY

To the Editor:—Some time ago a news item stated that an office building in Paris had refused to lease rooms for roentgen-ray work, alleging danger to other tenants. 1. What practical dangers exist which might warrant such action, and what principles apply which might enable the superintendent of a hospital, office building or person similarly placed to know what measures are necessary to insure the safety of persons constantly placed in contiguous or nearby rooms? 2. What physical ill effects might be expected to follow failure to supply such protection? Please omit name and address.

C. E. W., Pennsylvania.

Answer.—1. There are no conclusive reports on this particular question, but there are instances of practical application which permit certain conclusions based on demonstrable facts regarding the alleged dangers of roentgen rays at points beyond the walls of the roentgen-ray room. The danger to persons working in rooms above, below and on the several sides of the room in which there is an active roentgen-ray tube is virtually nil. A practical demonstration of the possible dangers to others than those actually engaged in operating roentgen-ray tubes is to be seen daily in the laboratories of a large manufacturer of roentgen-ray equipment where, during the process of manufacture of the Coolidge tube, persons work in rooms above, below and alongside the roentgen-ray tubes which are in action all day long during the process of rarefaction. This work has been going on for several years, and for the last year and a half (approxi-

mately) some of the newer deep therapy tubes have been in action for long periods of time, running as high as 295,000 volts, while many others are operated at around 200,000 volts. On careful inquiry it appears that in no instance has an untoward action been found on any of the numerous workers who constantly are occupied in the immediate vicinity of these roentgen-ray tubes. Blood tests have been repeatedly made on these employees in order to detect any untoward action of the rays. In order to insure a proper peace of mind in any one concerned, as those in neighboring rooms, it is regarded as advisable to provide some protection against the supposed deleterious action of roentgen rays. For this reason some roentgenologists place a lining of sheet lead (from 1/32 to 1/16 inch) on the walls of the rooms in which the roentgen ray is used. This sheeting is often carried from the floor up to about 8 feet, although to be entirely consistent it should cover all the walls, ceiling as well as the floor, thus making a six sided lead lining. (Such a lead lining should always be covered with pantasote or similar material; it ought not to be left bare, to avoid lead poisoning of the technicians and assistants). This, of course, is in addition to the usual standard lead-glass bowl around the roentgen-ray tube, lead protection screen or lead lined booth for the operator, which are an actual necessity in all instances. Some go to ridiculous extremes in providing unnecessarily thick lead linings which are costly; many others use no such lead lining at all. Obviously, the roentgen-ray operator is the one who requires most protection from untoward actions of the roentgen-ray, mainly because he is continually engaged in the work and is in close proximity to the tube. It is well known that in applying the very penetrating roentgen ray such as is now coming into extended use in the treatment of deep-seated malignancies, the unprotected roentgen-ray tube will result in a considerable quantity of the rays reaching into the neighboring rooms. However, it would be the grossest negligence were one to use such a roentgen-ray tube without protection, such as a standard lead-glass bowl, metal parts supporting it, proper filters of copper, and the like, all of which serve to reduce the amount of roentgen ray which reaches places other than the area being treated. In the case of a so-called "deep roentgen-ray treatment" using 200,000 or more volts, using the accepted formula as to filter, target-skin distance, milliamperage, etc., the amount of roentgen ray which escapes would be too small to be dangerous. The amount of ray which passes through 1 mm. of copper, plus 1 mm. of aluminum, through the small diaphragm opening which entirely confines the direct roentgen rays within the body of the patient, and the attenuation of the roentgen-ray strength, which decreases rapidly with the added distance traveled, is very small. The amount of roentgen ray which reaches a person in a neighboring room or in the room above or below, from 15 to 20 or more feet away, separated by the modern concrete and steel construction of floors, ceilings and walls, would be so small that it would not be sufficient to cause tissue or blood changes, even if continued over considerable periods of time.

2. The physical changes to persons acted on by the roentgen ray such as is suggested by the question, if it really did occur, would probably be the same as changes occurring in unprotected roentgen-ray workers, namely, a leukopenia. Skin changes under the conditions mentioned in the inquiry are unheard of.

TREATMENT OF ICHTHYOSIS

To the Editor:—Please describe the most satisfactory treatment for congenital ichthyosis (a mild case). G. T., Wyco, W. Va.

ANSWER.—There is no satisfactory treatment for ichthyosis. It is a congenital defect in the skin which cannot be corrected. In addition to the excessive horn formation, there is in ichthyosis a deficiency of sweat and sebaceous secretion so that the skin is abnormally dry. The most that can be done for the cases is to supply this deficiency of fat in the skin by the local application of fat in some form. This can be done by the inunction of any sort of a bland ointment. Petrolatum or cold cream is perhaps as good as any. Occasionally on localized areas where the horn is thick it can be softened and diminished by the addition of salicylic acid —from 10 to 60 grains to the ounce of ointment. Bathing also softens the horn, and warm baths prolonged to ten or fifteen minutes are useful. But they should be followed by the inunction of a bland fat immediately afterward, or they increase the dryness of the skin.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALASKA: Juneau, March 6. Sec., Dr. Harry C. De Vighne, Juneau.
IDAHO: Boise, April 4. Dir., Mr. Harry L. Fisher, Boise.
IOWA: Des Moines, March 8-10. Sec., Dr. Rodney P. Fagen, State House, Des Moines.
MAINE: Portland, March 13-14. Act. Sec., Dr. Adam P. Leighton, 192 State St., Portland.
MONTANA: Helena, April 3. Sec., Dr. S. A. Cooney, Power Bldg., Helena.
NEW HAMPSHIRE: Concord, March 9-10. Sec., Dr. Charles Duncan, Concord.

Arkansas November Examination

Dr. J. W. Walker, secretary, Arkansas State Board of Medical Examiners, reports the written examination held at Little Rock, Nov. 14-15, 1922. The examination covered 12 subjects and included 120 questions. An average of 75 per cent. was required to pass. Seven candidates were examined, all of whom passed. Eighteen candidates were licensed by reciprocity. The following colleges were represented:

College PASSED	Year Grad.	Per Cent.
College of Physicians and Surgeons, Little Rock	(1910)	79, 79.5
Tulane University	(1922)	92.1
Harvard University	(1922)	87.9
Memphis Hospital Medical College	(1911) 77.5, (1913)	79.5
Vanderbilt University	(1888)	79.1

College LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Atlanta Medical College	(1915)	Georgia
Southern Medical College	(1891)	Georgia
Northwestern University	(1902) Oklahoma, (1922)	Mississippi
Indiana University	(1921)	Indiana
University of Maryland	(1904)	Dist. Colum.
Barnes Medical College	(1911)	Missouri
Kansas City Medical College	(1896)	Oklahoma
Memphis Hosp. Med. Coll.	(1902) Tennessee, (1904), (1912)	Mississippi
Meharry Medical College	(1914) Texas, (1918)	Tennessee
University of Tennessee	(1895) Texas, (1921, 2), (1922)	Tennessee
University of Texas	(1920)	Texas

Nebraska November Examination

Mr. H. H. Antles, secretary, Nebraska State Department of Public Welfare, reports the written examination held at Lincoln, Nov. 6-8, 1922. The examination covered 9 subjects and included 90 questions. An average of 70 per cent. was required to pass. One candidate took the examination and passed. Thirteen candidates were licensed by reciprocity. Two candidates were licensed to practice as chiropractors. The following colleges were represented:

College PASSED	Year Grad.	Per Cent.
College of Physicians and Surgeons, Chicago	(1906)	84.6

College LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Chicago College of Medicine and Surgery	(1909)	Illinois
Loyola University	(1916), (1921)	Illinois
Northwestern University	(1921, 2) Illinois, (1922)	Iowa
Rush Medical College	(1921) Michigan, (1922)	Illinois
Keokuk Med. Coll., Coll. of Phys. and Surg.	(1908)	Kansas
College of Physicians and Surgeons, Baltimore	(1915)	W. Virginia
University of Maryland	(1919)	W. Virginia
Ensworth Medical College	(1906)	Kansas
Meharry Medical College	(1921)	Tennessee

Florida October Examination

Dr. W. M. Rowlett, secretary, Florida State Board of Medical Examiners, reports the written examination held at Tallahassee, Oct. 10-11, 1922. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 41 candidates examined, 31 passed and 10 failed. The following colleges were represented:

College PASSED	Year Grad.	Per Cent.
University of Alabama	(1910)	77.6
Atlanta Medical College	(1914)	78.3
Emory University	(1915) 79, (1916) 79.2, (1917) (1922) 77.6, 84.1, 87.2	89.4
University of Georgia	(1891) 77.3, (1911) 77.4, (1918)	84.1
Chicago College of Medicine and Surgery	(1917)	80.3
Rush Medical College	(1889) 80, (1910) 90, (1921)	84.8
College of Physicians and Surgeons, Chicago	(1906)	94.9
Tulane University	(1919) 85.8, (1921)	81.9

Johns Hopkins University	(1917)	85.7, 89.3
University of Maryland	(1917) 80.6, (1922)	83.5
Harvard University	(1915)	80.6
University of Michigan Medical School	(1919)	88.5
College of Phys. and Surgs. in the City of New York	(1896)	75.2
Columbia University	(1904)	84.6
University of Buffalo	(1921)	86.3
Cleveland Medical College	(1895)	78.7
Ohio State University College of Medicine	(1918)	84.1
University of Oklahoma	(1916)	88
University of Pennsylvania	(1922)	84.7

FAILED

University of Alabama	(1910)	63.6
Atlanta Coll. of Physicians and Surgeons	(1907) 56.1, (1905)	70.9
Atlanta School of Medicine	(1911)	71.3
University of Georgia	(1911)	70.6
Rush Medical College	(1884)	72.9
College of Physicians and Surgeons, Baltimore	(1884)	68.8
Kansas City Medical College	(1905)	72.7
Chattanooga Medical College	(1903)	64.4
University of St. Thomas, Philippine Islands	(1910)	65.6

North Carolina December Meeting

Dr. Kemp P. B. Bonner, secretary, North Carolina State Board of Medical Examiners, reports that eight candidates were licensed by reciprocity and one candidate was licensed by endorsement of credentials at the meeting held at Durham, Dec. 12, 1922. The following colleges were represented:

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Atlanta Medical College		(1914)	S. Carolina
Indiana University		(1919)	Indiana
Louisville and Hospital Medical College		(1908)	S. Carolina
Medical College of Virginia	(1914), (1916),	(1917)	Virginia
Medico-Chirurgical College of Philadelphia		(1913)	Penna.
Meharry Medical College		(1913)	Tennessee

College	ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
University of Pennsylvania		(1916)	N. B. M. Ex.

Book Notices

THE KINGDOM OF EVILS. Psychiatric Social Work Presented in One Hundred Case Histories Together with a Classification of Social Divisions of Evil. By E. E. Southard, M.D., late Bullard Professor of Neuropathology, Harvard Medical School, and Mary C. Jarrett, Associate Director, Smith College Training School for Social Work. With an Introduction by Richard C. Cabot, M.D., Professor of Social Ethics, Harvard University, and a Note upon Legal Entanglement As a Division of Evil, by Roscoe Pound, Dean of the Harvard Law School. Cloth. Price, $5.50. Pp. 707. New York: The Macmillan Company, 1922.

This book, which was almost ready for publication at the time of Dr. Southard's death, has been completed by his friends; it will stand as a lasting monument to his life and work. His collaborator, Miss Jarrett, who was Chief of Social Service at the Boston Psychopathic Hospital, directed the social treatment which is here recorded. This is the first book to be devoted to psychiatric social work, and illustrates and analyzes, in a most graphic and illuminating way, the problems with which this young but vigorous field of therapeutic endeavor is confronted. The facts presented go far to prove that, of a verity, social work is fundamentally psychiatric. The conditions of human life require that the individual adjust himself to organized society, to his associates, and to himself. The major fields of social work are therefore declared to be: public or governmental; social or voluntary, and individual or personal. Each requires special consideration from the social worker. The problems concerned are admirably illustrated by cases. The case histories which form the basis of the book, selected from a rich and intensively studied material, were not chosen to illustrate successes or failures in social treatment, but to bring out the types of evil with which society is confronted. In some cases one type of evil predominates; in others there are various combinations and corresponding degrees of complexity. The major evils are five: *morbi*, or diseases and defects of body and mind, the need of which is cure; *errores*, or educational deficiencies and misinformations, whose requirement is that we teach; *vitia*, or vices and bad habits, to remedy which we must train; *litigia*, or legal entanglements in and out of court, to be met by the counsel, and *penuriae*, or poverty and other forms of resourcelessness, which demand that we provide. The discussion which follows is practical, and brings out in bold relief the resourcefulness, versatility, keen insight and intensely human interests which characterized the genius of Dr. Southard. The language is simple, and, in spite of the case history method which has been adopted, there is not a dull chapter in the book. Appendixes have been added which provide a model for careful social work; also a rather complete bibliography. The book can be recommended to physicians who are interested in the treatment of "the man" as well as the disease, and to the nonmedical reader who is interested in any phase of social welfare.

DU GLAUCOMA ET DE L'HYPOTONIE. Leur Traitement Chirurgical. Par le professeur Félix Lagrange, Associé National de L'Académie de Médecine. Paper. Price, 28 francs. Pp. 432, with 110 illustrations. Paris: Octave Doin, 1922.

This aims to cover the entire subject of glaucoma, but a goodly portion of the book is devoted to considerations affecting the author's procedure of sclerectomy. This consists of the removal by scissors, or punch forceps, of a strip of sclera along the upper edge of the anterior flap of the wound one makes in the corneal section for cataract extraction. The author has modified the section by turning the knife sharply backward at the upper part of the anterior chamber to go posterior to the innermost, anterior angle of the sclera before coming on out through the limbus. The ciliary muscle is thus cut away from its attachment to the scleral spur, and this structure in turn excised, along with layers external to it, by the sclerectomy. The new path of the aqueous is then out over the ciliary muscle into the suprachoroidal space as well as through the fistulous tract leading into the conjunctival bleb, whence absorption takes place through the adjoining conjunctival vessels. A table of 104 cases, from one to nine years after operation, is given along with convincing data to show that eighty-nine were successful. In the fifteen unsuccessful cases, lack of success was due in eight cases to cataract formation (though four patients were later given good vision by extraction), twice to optic atrophy, and in the remaining five to retinal hemorrhage, anterior chamber hemorrhage, rapid decrease of vision, acute glaucoma and too small a sclerectomy. Contrasted with Elliot's corneoscleral trephining, Lagrange asserts that there is no danger of injuring the ciliary body, less danger of closure of the fistulous opening by proliferation of corneal tissue (for only sclera is excised), and that late infection does not occur. He advises iridectomy for acute glaucoma, sclerectomy with peripheral iridectomy in chronic glaucoma with constant high tension, and simple sclerectomy for the intermittent low tension of simple glaucoma. Rather too much of the reader's time is taken up with the author's claim of priority in the introduction of a fistulization operation for glaucoma. The facts seem to be that Lagrange described his sclerectomy for glaucoma in 1905, and that Elliot did his first trephine operation in 1909. If these are the facts, Lagrange is entitled to more credit than he complains he has received in many English and American publications. The treatise is interesting, too, outside of the operative features. The author defines glaucoma as "a dystrophy of the eye characterized anatomically by vascular and nervous degenerations and clinically by a hypertension following hypersecretion, and is the result of the union of hypersecretion and hypo-excretion," and insists that the glaucomatous eye is "a sick eye in a sick body." Secondary glaucoma he classifies as a false glaucoma. In the development of glaucoma, he considers that there is a neuropathy, producing a hypersecretion, as first postulated by Donders, leading to increased tension, when, as shown by Knies, the anterior chamber angle becomes blocked. He believes that vascular changes in the nerve account for cases of progressive atrophy of the optic nerve and blindness after normal tension has been restored, and describes sections to prove his view. He thus joins the growing list of authorities who support Schnabel's theory of a cavernous atrophy independent of the tension. He holds that the "great trio" in glaucoma are Donders, Knies and Schnabel. In the diagnosis of glaucoma he emphasizes the importance of Bjerrum's paracentral scotoma and the diminution of the light sense. When scotoma

approaches the fixation point he advises operation. Iridectomy sometimes hastens final blindness, for some unknown reason, but sclerectomy does not. Not the least interesting part of the book is that devoted to hypotony. A tension of less than 16 the author considers pathologic and says that it is of great frequency in high myopia, even when uncomplicated by detachment of the retina. He has devised a procedure which he terms calmatage to increase tension by a slow partial blockage of the angle of the anterior chamber. The conjunctiva above or below the cornea is resected in a large flap, hinged at the corneal margin, and multiple ignipuncture is carried out part way through the outer sclera layers. In animals this sets up a low grade fibrous proliferation in the sclera both in the outer looser layers and in the deeper layers, bringing about a more compact state of the structures through which run the vessels draining the aqueous out of Schlemm's canal. The procedure is carried out in two sittings and is followed by a course of subconjunctival injection of salt or mercury intended to intensify the reaction. Tension increases up to ten days and then relapses to the first reading; but after six months a final higher tension is established and maintained well above the former pathologically low state. Detailed records of thirty such cases are given. They include three of high myopia and twenty-two cases of myopia complicated by detachment of the retina, and five other cases of detachment with low tension. All were improved with an average rise from 10 to 22, according to the Schiötz tonometer. All considered, the book is well worth reading.

INFANTILE CIRRHOSIS OF LIVER. By Santosh Kumar Mukherji, M.B., M.R.A.S., Lecturer, National Medical College of India and King's Hospital. With a Foreword by Major General B. H. Deare, C.I.E., M.R.C.P., D.P.H., Surgeon General of Bengal. Cloth. Price, rupees 2-8-0. Pp. 95. Calcutta: Indian Medical Record Book Dept., 1922.

This interesting little book takes up a subject that is almost entirely unknown to American readers. The type of cirrhosis described is apparently peculiar to the southern part of India. Its importance there is revealed by statistics showing that the number of deaths in Calcutta since 1908 has varied between 727 and 561 a year, almost all of these occurring in children under 5 years of age. The book is based on a study of forty-eight cases and five necropsies. The author regards the condition as an intercellular cirrhosis of the liver. He thinks that the condition is due to dietetic errors occurring in children either totally or partially artificially fed. The symptoms are well presented, as is the subject of differential diagnosis. With the usual means of treatment, the patients nearly all die; but at least a fair percentage can be saved if a rational diet is given, hygienic conditions are improved and cholagogues are used. On the whole, the book should prove interesting to one who wishes first-hand knowledge of a disease about which we know little or nothing.

AN OUTLINE OF THE MEDICAL SERVICE OF THE THEATRE OF OPERATIONS. By M. A. W. Shockley. Cloth. Price, $2.50. Pp. 230. Philadelphia: P. Blakiston's Son & Co., 1922.

This book presents the gist of the lectures given at the United States Army general service schools during the 1919, 1920 and 1921 sessions. It is a textbook for line and medical officers who have shown the ability to organize and administer military organizations. The author therefore assumes that his reader has had considerable experience, and has omitted many purely medical details that would have made the book more interesting. There are formulas for estimating the number of battle casualties, the time that will be required to evacuate the wounded, and the amount of transportation and the number of hospital beds that will be needed. There are tables of reference of noted battles in various wars to show the percentage of wounds in different anatomic regions in offensive and defensive fighting. The duties of different medical offices in the theater of combat are tabulated, and seem hard and fast; but in actual campaign there is unlimited opportunity to do much more. There are specimens of the types of orders affecting the medical department, and the usual sketches showing the disposition of medical units in battle. The latter are separate sheets that fit into a pocket for notes in the binding of the book. The medical service tactical and administrative doctrine contained has been coordinated with combatant doctrine by actual test, and conforms to the doctrine of the Surgeon General's Office. Only 6 per cent. of the total number of medical officers in the World War were regular officers. This book shows why they were detailed mostly to administrative positions.

LEOPOLD AUENBRUGGER'S INVENTUM NOVUM. Faksimile nach der ersten Ausgabe. Begleitet von der Französichen Uebersetzung Corvisart's, der Englischen von Forbes, der Deutschen von Ungar. Herausgegeben und mit einer biographischen Skizze Versehen von r. Max Neuburger, O. ö. Professor an der Universität Wien. Boards. Price, $5. Three illustrations. Vienna: Josef Safár, 1922.

This book opens with a steel engraving of Auenbrugger, who was born in 1722. Following is a facsimile reproduction of the original Latin text of 1761. Next is a steel engraving of Corvisart and a facsimile reproduction of the 1808 translation into French which he made of Auenbrugger's work. The third part is a reproduction of the translation made by John Forbes into English and published in London in 1824. The fourth section is a translation into German made by S. Ungar and published in Vienna in 1843. The book is completed with a portrait of Auenbrugger and a historical sketch in German by Max Neuburger.

It is hardly necessary to remind medical readers of the importance of Auenbrugger's discovery of the art of percussion in the diagnosis of disease. In his preface occurs the famous line which should be the guide of every medical writer:

> In making public my discoveries respecting this matter, I have been actuated neither by an itch for writing, nor a fondness for speculation, but by the desire of submitting to my brethren the fruits of seven years' observation and reflexion.

and further:

> In drawing up my little work I have omitted many things that were doubtful, and not sufficiently digested; to the due perfection of which it will be my endeavour henceforth to apply myself. To conclude, I have not been ambitious of ornament in my mode or style of writing, being contented if I shall be understood.

Dr. Neuburger suggests that perhaps Auenbrugger's work was based on the fact that while young he had observed the tapping on casks to determine the amount of fluid in them, since the boy was the son of an innkeeper. It is well known, too, that some of the ancients had spoken of percussion for ascites and for determining the presence of fracture. Auenbrugger, however, was the first to percuss the thorax systematically for the determination of various normal and pathologic signs, and to outline a system for routine percussion in physical diagnosis. He was a man of clear brain and calm passions. Today the whole medical world accepts without question his right to a position as one of the great founders of the art of scientific diagnosis.

DISEASES OF INFANCY AND CHILDHOOD, THEIR DIETETIC, HYGIENIC AND MEDICAL TREATMENT. A Text-Book Designed for Practitioners and Students in Medicine. In two volumes. By Louis Fischer, M.D., Attending Physician to the Willard Parker and Riverside Hospitals of New York. Volume I: Infant Feeding and Organic Diseases. Ninth edition. Cloth. Price, $12 per set of two volumes. Philadelphia: F. A. Davis Company, 1922.

The new edition contains a revision of a great deal of material contained in previous volumes, which enhances its value. The book is to be recommended as a practical work. Part 6 has an excellent chapter on anaphylaxis and allergy; also a chapter on bacterial vaccines, which is open to criticism because of the optimism expressed by the author, which is, however, based largely on his individual experience.

CONSEJOS PRACTICOS DE HIGIENE INFANTIL. Por el Dr. José J. Callejas. Paper. Pp. 223, with illustrations. Comayagüela, Honduras: Imprenta "El Sol," 1922.

Surprised at the large number of children dying in Central America, the author decided to look into the causes and point out the possible remedy. This he has striven to do in the present book, one of practical advice on child hygiene. Without aiming at originality or beauty of style, he has accomplished a useful piece of work in a publication intended especially for Central American mothers, and reviewing all the factors that affect child welfare from conception to the period of youth.

Miscellany

A CROWDED PROFESSION

The gloomy vaticinations of those who see an unpleasant overcrowding of the profession in two, or at most, three, years' time seem to have attracted the attention of the public in an unusual degree. Many newspapers have reproduced the statistical tables and calculations from the professional journals which go to prove there will be very soon one registered practitioner to every thousand of the general population if, indeed, we have not reached that point already. It is unfortunate that the decrease in the number of new students did not commence in time to affect the number of those who are already getting qualified and registered, as it may take the best part of a generation to reduce the numbers of the surplus by the usual eliminative processes, and, in the meanwhile, there is likely to be an exceedingly hard time for those faced with the problem of making a livelihood under the keenest competition. It is probable, too, that some of the licensing corporations may share eventually in the leanness of the times, for, amid a glut of candidates, public bodies are certain to restrict their favors to those who hold the qualifications which carry the greatest appeal to the lay comprehension.

The situation can but have a very adverse influence on the prospects of medical women; there are far too many of them at present, and since no friendly warnings availed to check the recent inexplicable crowding of the sex into the profession, they are likely to suffer far more than the medical man in the struggle for existence. For a section of the public, and especially some corporations, still decline obstinately to accept the existence of the medical woman as anything but an impertinence, and it is probable that when in competition with the male overplus she may be ousted even from her recently conquered school clinic and welfare domain.—*Observer* (London), January 21.

A GOVERNOR'S OPINION OF THE AMERICAN MEDICAL LIBERTY LEAGUE

The *Denver Medical Bulletin* reprints from the Denver *Post* an open reply by Governor Sweet of Colorado to an invitation from the American Medical Liberty League to attend its meeting. The governor is quoted as saying: "I thank you very much for your invitation, and I wish to say that so far as you state the principles of the league in your letter, and from reading the press, I do not find myself in agreement with them. I agree that personal liberty is a thing to be cherished, but personal liberty cannot be relied on to permit any practice detrimental to the health and well-being of society. I do not believe that 'individual liberty' can be urged as a reason why you should be allowed to do as you please with respect to health matters, regardless of the law and the rights of the community. In my opinion, the rights of society are just as sacred as those of the individual.

"If I am called on to pass judgment on any legislation which may be passed by the legislature now in session, I will be moved in my consideration of this legislation far more by the facts than I will be by any specious arguments affecting the principles of liberty."

CHEMICAL CHANGES IN BLOOD IN PNEUMONIA

In a series of fifty cases of pneumonia of various types, at about the time of the crisis the nonprotein nitrogen was found by John A. Killian definitely increased from 34 to 156 mg. per hundred cubic centimeters (*Proc. New York Path. Soc.* **22**:72 [Jan.-May] 1922). Following the increase in the nonprotein nitrogen the uric acid concentration of the blood rose from 3.8 to 11 mg., and subsequently there was a rise in the urea nitrogen to 20 mg. or more. When the urea nitrogen had reached this level a definite accumulation of creatinin was noted. In a few instances the creatinin exceeded 5 mg. per hundred cubic centimeters, and death in these cases could undoubtedly be attributed to the severe impairment of renal function. The order of retention in the blood of the nitrogenous waste products was analogous to that observed in nephritis of the interstitial type, first, the uric acid, secondly, the urea, and finally, the creatinin. A significant decrease in the blood chlorids from 0.288 to 0.425 per cent. was found in the majority of the patients before the crisis. It was not possible to establish any definite relation between the decrease in the blood chlorids and any of the clinical manifestations of the disease. At the time of the crisis, the chlorids quickly rose to a level exceeding 0.50 per cent., and gradually dropped back to within normal limits. In a few cases subnormal blood chlorids were found with a retention of the nitrogenous waste products. Pneumonia was found to produce a slight decrease in the carbon dioxid combining power, from 45 to 50 volumes per cent.

Medicolegal

Liability of Roentgenologists and Surgeons—Cross-Examination of Experts

(Stemons v. Turner (Pa.), 117 Atl. R. 922)

The Supreme Court of Pennsylvania, in reversing a judgment obtained by the plaintiff for roentgen-ray burns, says that there was nothing in his statement which averred that the machine used was in any way different from those ordinarily in use, or that the defendant, through lack of training or otherwise, was incompetent to handle it. The issue was therefore narrowed to the single question whether the defendant negligently or ignorantly used the roentgen ray on the occasion when he subjected the plaintiff to it, measuring the skill required of him in its use as a duty to do so with the skill reasonably required in the proper use of such practice and treatment. This is substantially the rule laid down by the Pennsylvania cases, which hold that a physician or surgeon is only required to exercise such reasonable skill and diligence as is ordinarily exercised in his profession, and it is also the general rule.

The trial judge in his charge to the jury applied the rule of *res ipsa loquitur* (the matter speaks for itself) to the case, and permitted the injury to the plaintiff and nothing else to speak the negligence; a rule which this court has said does not apply between physician and patient. The appellate courts in the several jurisdictions throughout the country where the question has arisen are not in accord as to whether the *res ipsa loquitur* doctrine should be applied to roentgen-ray burning cases, the weightier reasoning being that it should not. The note to *Runyan* v. *Goodrum* (147 Ark. 481, 228 S. W. 397), 13 A. L. R. 1403, covers all the decided cases, points out the conflict of authority among them on the *res ipsa loquitur* doctrine and deduces the generally recognized conclusion that a person undertaking to use roentgen rays is held only to the same measure of responsibility as in administering other forms of medical treatment. This is the rule which wisdom dictates.

The trial judge also unduly stressed the fact that the roentgen ray is a dangerous instrumentality. So is a surgeon's knife. If human ills are to be cured, such instrumentalities must be used. To put on the medical profession, which must use them, such a burden as financial responsibility for damages, if injury or death results, without proof of specific negligence, would drive from the profession many of the very men who should remain in it, because they would be unwilling to assume the financial risks.

On cross-examination of an expert witness who has expressed an opinion in answer to a hypothetical question full latitude should be allowed to ascertain just what the factors were which the witness took into account in arriving at his conclusion, and what, if any, he disregarded; otherwise, the integrity and value of his opinion cannot be investigated. Under such circumstances, a broad range of inquiry is permitted, and the expert witness may be asked as to the basis of his opinion, including statements on which he has

relied, in order to show the reasonableness or unreasonableness of the opinion expressed, and to test its value. His attention may be called to any fact, omitted from the hypothetical question asked on direct examination, or the facts stated in the hypothetical question which are deemed unimportant may be sifted out. The data on which the expert rests his specific opinion (as distinguished from the facts which make him skilful to form one at all) may be fully inquired into on cross-examination. Without them, the value of the opinion cannot be estimated.

Two Questions for Jury in Action on Account

(Geiger v. Gillespie (Ala.), 93 So. R. 412)

The Supreme Court of Alabama says in this case, which was transferred to it from the court of appeals, that the plaintiff, a physician, sued the defendant to recover for professional services rendered to the latter's daughter. One of the counts of the complaint was on an open account, another on an account stated, and the remaining count for professional services rendered by the plaintiff for the defendant, at the instance and request of the defendant. The cause was tried on these counts and the plea of general issue, together with a plea of the Alabama statute of limitation of three years. The result was a judgment for the plaintiff, which is here affirmed. The only question argued on this appeal related to the insistence that an affirmative charge was due the defendant on the whole case, on the theory that more than three years had expired from the time the services were rendered, and that there had been no agreement on the part of the defendant to pay the plaintiff. But there was evidence for the plaintiff which tended to show that the account sued on was rendered by him to the defendant, and that the latter retained this account without objection of any character—the services having been rendered in January, 1916, and the statement having been rendered the defendant in May, 1918. The evidence was in conflict, however, as to any objection on the part of the defendant, and the issue of fact thus presented was properly left for the determination of the jury. It therefore appeared that the affirmative charge was not due the defendant as for an account stated. Moreover, one of the counts of the complaint rested for recovery on a special contract between the parties as to the services rendered, which was supported by the testimony of another physician, who was a witness for the plaintiff. The issues presented by this count were also properly submitted to the jury. This court finds no reversible error.

No Award When Employer Authorizes Services

(Integrity Mutual Casualty Co. et al. v. State Industrial Commission et al. (Okla.), 209 Pac. R. 653)

The Supreme Court of Oklahoma, in reversing an award of $600 made by the state industrial commission to a physician who had attended an injured employee of a company, and made after awards had been made to the employee which included $850 for medical services, says that the employee's injuries were such that it was necessary to operate on the brain to restore him to consciousness. The attending physician did not feel capable of performing the operation, and suggested to the president and general manager of the company that a specialist from Chicago be employed to perform the operation. The president agreed to this, and a specialist was employed. The insurance carrier under the workmen's compensation act, on being informed of the employment of the surgeon, objected to it, and stated that it would not pay for his services, whereupon the attending physician replied that he would pay for them himself. The insurance carrier tendered the services of another surgeon, which were refused. The award made of $600 was to reimburse the attending physician for money paid by him to the specialist from Chicago.

Under the provisions of the workmen's compensation act of Oklahoma, if the employer furnishes medical services, he becomes liable to the physician on contract. If he neglects or refuses to furnish these services after being requested to do so, the injured employee may secure services at the expense of the employer, and the employer becomes liable therefor under the act, and the fees and charges for these services are subject to regulation by the commission. But it is only the provisions of the law that the commission has jurisdiction to enforce. It is without power to enforce a contract between the employer and the physician employed by him.

Had the employer in this case refused or neglected to furnish medical services after being requested to do so by the injured employee, or under the circumstances surrounding this case by some one for him, then the employee, or some one for him, might have procured services, and the expenses thereof should have been included in the award to the employee, if approved by the commission, and the claim of the physician therefor would have become a lien on the compensation awarded, and should be paid therefrom in the manner fixed by the commission. But the record disclosed that the employer did not neglect or refuse to furnish medical services, but to the contrary did everything possible to furnish the best surgical skill obtainable, and requested the attending physician to procure the services of a specialist to perform the needed operation. Obviously, this created a contractual relation between the physician and the employer, and if the employer refused to pay for the services furnished, the physician had his remedy by appropriate action in the proper court.

Wherefore the supreme court concludes that the industrial commission was without jurisdiction to make the order or award complained of, and the same is reversed and the cause remanded with directions to dismiss the claim.

Power Inherent in Cities to Erect City Hospitals

(Cumnock v. City of Little Rock et al. (Ark.), 243 S. W. R. 57)

The Supreme Court of Arkansas, in affirming a decree that sustained a demurrer to a complaint that asked that the defendants be enjoined from proceeding with the erection of a city hospital, holds that the city had the power to erect a city hospital, under the general welfare clause of the statute of that state which provides that municipal corporations shall have the power to make and publish such ordinances, not inconsistent with the laws of the state, as to them shall seem necessary in order to provide for the safety, preserve the health, and improve the comfort and convenience of such corporations and their inhabitants. The court says that it is also of the opinion that the power to erect a city hospital is a necessary incident of municipal life. In a growing city, a city hospital may be necessary for the preservation of the public health and the care of sick paupers. This court can see no difference in principle between the right of a city to erect and maintain a hospital and to erect and use city halls, jails and the like. Most cities of any considerable magnitude have city hospitals which are subject to the regulation of their own local authorities. It is true there is express statutory authority to erect them in many of the states, but this court is also of the opinion that such authority is essential to carry out the object and purposes of organizing municipal corporations. A municipality is a governmental agency, and in cities the erection of hospitals to preserve the public health and to care for indigent people within its borders is highly essential, and may be absolutely necessary.

Society Proceedings

COMING MEETINGS

Alabama, Medical Association of the State of, Mobile, April 17-20. Dr. H. G. Perry, State Board of Health, Montgomery, Secretary.

American Association of Anatomists, Chicago, March 28-30. Dr. Lewis H. Weed, Johns Hopkins Medical School, Baltimore, Secretary.

American Association of Pathologists and Bacteriologists, Boston, March 29-30. Dr. H. T. Karsner, Lakeside Hospital, Cleveland, Secretary.

Louisiana State Medical Society, New Orleans, April 10-12. Dr. P. T. Talbot, 1551 Canal Street, New Orleans, Secretary.

North Carolina, Medical Society of the State of, Asheville, April 17-19. Dr. L. B. McBrayer, Sanatorium, Secretary.

South Carolina Medical Association, Charleston, April 17-19. Dr. Edgar A. Hines, Seneca, Secretary.

Tennessee State Medical Association, Nashville, April 10-12. Dr. Larkin Smith, 154 Eighth Avenue, N., Nashville.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Hygiene, Baltimore

January, 1923, **3**, No. 1

Control of Hookworm Disease. XII. Studies on Occurrence, Distribution and Morphology of Necator Suillus, Including Descriptions of Other Species of Necator. J. E. Ackert and F. K. Payne, Baltimore.—p. 1.

*Control of Hookworm Disease. XIII. Conditions Under Which Hookworm Eggs and Larvae Develop. J. E. Ackert, Baltimore.—p. 26.

*Treatment of Hookworm Disease with Carbon Tetrachlorid. W. G. Smillie and S. B. Pessoa, Sao Paulo, Brazil.—p. 35.

Control of Hookworm Disease. XIV. Field Experiments on Vertical Migration of Hookworm Larvae. F. K. Payne, Baltimore.—p. 46.

Control of Hookworm Disease. XV. Effective Method of Counting Hookworm Eggs in Feces. N. R. Stoll, Baltimore.—p. 59.

*Age at Death of Parents of Tuberculous and Cancerous Persons. R. Pearl, Baltimore.—p. 71.

Control of Hookworm Disease.—The results obtained from covering soil pollution with clay loam indicate that the custom of covering human waste with 2 inches or less of clay loam is unsuccessful as a control measure against hookworm disease. The results of tests made by Ackert in which hookworm eggs in soil pollution were buried under 4 inches and under 5½ inches of clay loam showed that the eggs produced infective larvae, that the larvae migrated to the upper part of the culture, and that the eggs remained viable for fifty-eight days. The custom of covering soil pollution containing hookworm eggs with a thin layer of wood or charcoal ashes is ineffective as a control measure, as large numbers of infective larvae developed in stools wholly surrounded by the ashes. Moreover, the larvae lived deep in the cultures for over three weeks.

Treatment of Hookworm Disease with Carbon Tetrachlorid.—Carbon tetrachlorid, administered in 3 c.c. doses to adults, was found by Smillie and Pessoa to be an extremely efficient drug in the removal of hookworms (*Necator americanus*). A single treatment will remove more than 95 per cent. of all hookworms harbored. Larger doses than 3 c.c. are unnecessary and may be dangerous. Carbon tetrachlorid has a toxic action on the host, similar to that of chloroform. The first stages are dizziness, slight nausea, headache, and somnolence. These are usually transient. A later and more serious manifestation is fatty degeneration of the liver, which first manifests itself two or three days after treatment. This condition rarely occurs and is seldom fatal. There is a wide variation in individual reaction to carbon tetrachlorid. Large doses, from 10 to 20 c.c., have been given to adults without producing apparent ill effects. Alcoholics are especially susceptible to the toxic action of the drug; so small a dose as 1.5 c.c. has produced severe toxic symptoms in an acute alcoholic.

Age at Death of Parents of Tuberculosis and Cancer Patients.—A study made by Pearl of the question of the ages at death of the parents of the tuberculous and the cancerous, on the basis of critically collected new material, shows that, for completed lives (parents dead), the mean age at death of the parents of a group of tuberculous persons is significantly, but not greatly (from 2 to 4 years), lower than the mean age at death of the parents of a group of nontuberculous persons having the same age distribution as the tuberculous group. The same thing is true of the fathers of a group of cancerous persons. The experience for mothers of the cancerous is too meager to give definite results. In so far as duration of life may be taken statistically as an indicator of soundness of biologic constitution, it follows that in some degree, though not considerably, both the tuberculous and the cancerous are of weaker stock constitutionally than those not having these diseases. Incidentally, the results of this investigation, as they are interpreted by Pearl, furnish new evidence, of a different sort than any heretofore offered, on the question of the inheritance or duration of life.

Archives of Neurology and Psychiatry, Chicago

January, 1923, **9**, No. 1

*Physiologic Effects and Clinical Results of Section of Anterolateral Columns of Spinal Cord (Chordotomy). C. H. Frazier and W. G. Spiller, Philadelphia.—p. 1.

*Pathology in Case of Epidemic Encephalitis Complicated by Psychosis. G. B. Hassin, Chicago, and D. B. Rotman, Dunning, Ill.—p. 22.

*Neurosyphilis Among Chinese: Findings in Sixty-Five Cases. W. G. Lennox, Peking, China.—p. 26.

*Study of Four Cases of Glossopharyngeal Neuralgia. J. B. Doyle, Rochester, Minn.—p. 34.

Lesions in Brain of Patient with Postencephalitic Paralysis Agitans. J. C. McKinley, Minneapolis.—p. 47.

*Pathologic Findings in Heart Muscle in Progressive Muscular Dystrophy. J. H. Globus, New York.—p. 59.

*Sex Development and Behavior in Male Patients with Dementia Praecox. C. E. Gibbs, Ward's Island, N. Y.—p. 73.

*Spirochete Stain in Multiple Sclerosis. G. S. Stevenson, Ward's Island, N. Y.—p. 88.

Results of Chordotomy.—Frazier and Spiller report eight cases in which chordotomy has been performed. In one case the operation was performed three separate times on the same side of the cord. The operation abolished the pain for which it was performed in six, and gave decided relief from pain in the remaining two cases. Four were cases of malignant tumor. The authors are convinced that this operation, when successfully performed, destroys pain, heat and cold sensations in the lower limbs and lower part of the trunk when performed at the proper level, although the impairment of these sensations is less intense over the abdomen in some cases, probably because some fibers have not decussated at the level of the incision. In some cases they have observed that certain fibers innervating the lower limbs for pain and temperature sensations escape in the division of the anterolateral columns. The bladder and rectum almost invariably escape damage in this operation. One might possibly expect sympathetic fibers for the bladder and rectum to be in the anterolateral columns and to be impaired by this operation, but it has seemed to the authors that when such disturbance occurs from a spinal cord lesion, the crossed pyramidal tracts are damaged. They are inclined to believe that, in the male, impairment of sexual power possibly may result in the manner suggested. In one case in which unilateral chordotomy was performed sexual power was lost. The marked impairment of pain and temperature sensations after chordotomy at the fifth thoracic segment usually is pronounced to about 2 inches (5.08 cm.) above a line passing through the umbilicus, and gradually shades off above this region. While pressure sensation is preserved, it is without any association with pain sensation.

Pathology of Epidemic Encephalitis Complicated by Psychosis.—In the case described by Hassin and Rotman there was a combination of diffuse inflammatory and degenerative phenomena, especially in the basal ganglions and midbrain. The infiltrations were not so pronounced as in acute cases of epidemic encephalitis; and the proliferative changes were not so marked as in so-called productive encephalitis (caused, for instance, by lead or arsenic). Resembling in the combination of inflammatory and degenerative changes the findings in general paralysis of the insane, this case differs from the latter in the comparatively mild involvement of the cortex. The inflammatory changes in the basal ganglions and midbrain could, perhaps, explain the nervous manifestations (ocular paralysis, parkinsonian mask), while the diffuse degenerative phenomena in the cortex were most likely responsible for the patient's mental condition. It is obvious that degenerative lesions are a serious complication of epidemic encephalitis, much more serious than the inflammatory changes. The latter may subside or disappear entirely, leaving no permanent disability, in contrast to a degenerative process, which however mild, may produce more or less troublesome complications of which the most dangerous are mental disturbances.

Neurosyphilis in Chinese.—Sixty-five cases of neurosyphilis are reported by Lennox in which spinal fluid examination confirmed the clinical diagnosis of syphilis. Testimony of individual observers and reports of general hospitals agree that in China syphilis is relatively more common and neurosyphilis relatively less common than in America. One explanation for this apparent racial discrimination, Lennox

says, is the probability that many cases of neurosyphilis among the Chinese have been overlooked. In a teaching hospital in Peking, search for these cases revealed a proportion comparable with that found in teaching hospitals in America. An unusual proportion of the Chinese patients have cord lesions of vascular origin.

Glossopharyngeal Neuralgia Is a Clinical Entity.—Doyle's observation of four cases leads him to conclude that glossopharyngeal neuralgia is a definite clinical entity, differing from trifacial neuralgia only in the area of distribution of pain. He is convinced that the different fibers of the sphenopalatine ganglion concerned with the innervation of the nasopharynx are not derived from the trigeminal nerve.

Changes in Heart Muscle in Progressive Muscular Dystrophy.—The heart in Globus' case was somewhat smaller than normal, the left ventricle was well contracted and empty, the right ventricle was dilated and filled with blood. The subepicardial fat was somewhat increased, and some fatty streakings were found under the endocardium. The heart muscle was pale, yellowish red, flabby and friable. On section, the wall of the left ventricle showed many translucent patches, irregularly distributed. These patches bore no relation in the coronary or smaller vessels. The coronary vessels showed no pathologic change. Preparations from the wall of the left ventricle showed many connective tissue scars, varying in size. They had not involved the perimysium externum, but were apparently produced mainly by proliferation of connective tissue in the perimysium internum, leading to the isolation of individual muscle fibers and fragmentation of muscle fibers. In younger, advancing scars small round fixed connective "tissue cells" were seen in large numbers. Fat infiltration was found in the connective tissue scars and about the blood vessels, as it was in the skeletal muscles. As the degenerative process and the process of fibrosis were relatively mild in the heart, so the fat infiltration was rather meager. A larger amount of fat was under the epicardium, but this cannot be considered entirely pathologic. Another feature, not unlike the pathologic change in the skeletal muscles, was the accumulation of many small round cells in the connective tissue trabeculae, in the fibrous scars and, in a few instances, in the proximity of blood vessels. Changes in the muscle fibers themselves were also observed. They partook mainly of the character of edema and swelling of some fibers, atrophy of others, with hyalinization and fragmentation. Aschoff bodies were not found in the cardiac lesion described.

Sex Studies in Male Dementia Praecox Patients.—The findings obtained by Gibbs in a study of 325 male dementia praecox patients indicate a disturbance of sexual development and a failure of sexual maturity which is most marked in patients admitted to the hospital during the years of puberty and adolescence. Patients admitted at an early age give the impression of unevenness of sexual growth, the development of the secondary sexual characters lagging behind that of the testes. These patients seem to lack the finishing touches of complete physical maturity. Only 20.5 per cent. of the patients had reached an adult level of sex behavior and maintained it for even a short time, either married or single.

Spirochete Stain in Multiple Sclerosis.—In the study of thirty-seven sections from four cases of multiple sclerosis stained by Jahnel's new method, no spirochetes were found by Stevenson.

Boston Medical and Surgical Journal

Jan. 25, 1923, **188**, No. 4

*Convalescence: II. Problem in Preventive Medicine and Public Health. J. Bryant, Boston.—p. 99.
*Pellagra in Massachusetts. G. C. Shattuck, Boston.—p. 110.

Management of Convalescence: A Public Health Problem.—Bryant emphasizes the wisdom and necessity for better private and community care of the convalescent patient; for today, as in the past, the convalescent patient suffers from clinical neglect. This clinical neglect is, at least in some degree, due to failure on the part of the medical profession to take into consideration a time factor fundamental in all medicine. There can be no doubt that the medical profession is under suspicion of neglecting its duty and opportunity in regard to convalescence. Convalescent care, when properly applied, hastens and completes recovery of the patient, frees acute hospital beds for their proper use, saves money to the community and saves the medical profession from the now too frequently justifiable reproach of clinical neglect of the convalescent patient. Convalescent care may be applied within a general hospital, through an outpatient department, in the home of the patient, and in an organized convalescent home. Maximum efficiency in such a home results only when medical therapy, occupational therapy, physiotherapy, and social service factors work harmoniously together under the directions of a physician skilled in convalescent methods; one who does not assume responsibility for patients acutely ill, and who must in all matters of medical policy be independent of those in control of the acute medical and surgical services of the general hospitals. Bryant predicts the development of a future state wide organization which will have as its objective, the efficient application of available modern methods to the problem of caring for convalescent patients. An organization such as that anticipated could to advantage operate through the medium of large country convalescent centers which, though based on the larger cities, would be available to patients from the smaller towns within a motor transport radius of 20 miles from each such convalescent center.

Pellagra in Massachusetts.—The number of cases (136) of pellagra found by Shattuck in state and hospital records shows that pellagra is by no means rare in Massachusetts. Pellagra has been reported from nearly all the counties of the state. That most of the pellagra in Massachusetts originates within the state is shown by the fact that the great majority of cases developed in residents of the state and in the native born. Pellagra has been most common where population is densest. The mill towns show no disproportionate number of cases. In Massachusetts, women have been affected in much larger proportions than have men. The occupations of both male and female pellagrins have been studied. Among females, housewives markedly predominated, and among males the largest group of cases developed among unskilled laborers. These are the predominant types of work of the two sexes. Persons engaged in a great variety of occupations have developed the disease, and the observations do not indicate an association of liability to pellagra with any special occupation. The skin lesions of pellagra in Massachusetts most often appear in July but, apparently, they may develop for the first time in any month of the year.

Canadian Medical Association Journal, Montreal

January, 1923, **13**, No. 1

Medical Education and the Ontario Medical Association. J. H. Mullin.—p. 2.
Treatment of Nephritis. E. H. Mason.—p. 6.
Tumors of Kidney. H. A. Bruce.—p. 13.
*Tuberculosis of Intestine. Ulcerative Form, Phase of Pulmonary Tuberculosis. D. A. Stewart.—p. 20.
Cancer of Stomach. F. N. G. Starr.—p. 24.
Cranial and Intracranial Injuries. C. K. P. Henry.—p. 26.
Pneumonia. G. G. Melvin.—p. 30.
Hemolytic Streptococcic Infections in Children. I. H. Erb.—p. 32.
Baneful Cathartic After Abdominal Operations. C. A. Howard.—p. 36.
Analysis of Sixty Cases of Gastric Anacidity Associated Mainly with Chronic Diarrhea and Pernicious Anemia. C. Hunter.—p. 38.
Acrodynia (?); Report of Three Cases. A. F. McKenzie.—p. 43.
Echinococcus Cysts of Liver in Girl Ten Years Old. H. M. Young.—p. 48.
Nitrous Oxid. W. Bourne.—p. 50.

Tuberculosis of Intestine; Ulcerative Form.—Stewart believes that intestinal ulceration, tuberculous in origin, is found in a fairly wide percentage of cases of pulmonary tuberculosis. It is likely implanted early, perhaps earlier than the lung lesion. It is almost universally present in the late stages of pulmonary disease, and hastens, or perhaps causes, death. It is treatable and even curable in its early stages. Early diagnosis, especially of disease in the small intestine, is not yet satisfactory, but much can be done by careful study of symptoms and giving the opaque meal and an enema. Surgical treatment is suitable in some cases, but is of limited applicability. The most promising treatment at present would seem to be the use of the ultraviolet ray, given by the quartz lamp, using, perhaps, the roentgen ray as well.

Florida Medical Association Journal, St. Augustine and Jacksonville

November, 1922, **9**, No. 5

Function of Tonsil and Plea for More Conservative Treatment of Chronic Tonsillitis. M. Price, Key West, Fla.—p. 81.
Management of Children with Heart Disease. W. S. Coleman, Miami, Fla.—p. 83.
Granuloma Inguinale. G. J. Oetgen, Jacksonville.—p. 84.
Fractures. R. A. Ely, Tampa, Fla.—p. 89.
Case of Unusual Susceptibility to Diphtheria. P. Crumpler, Clinton, N. C.—p. 91.

Journal of Biological Chemistry, Baltimore

January, 1923, **55**, No. 1

Lead Studies. II. Electrolytic Determination of Lead in Biologic Material. A. S. Minot, Boston.—p. 1.
Hydrolysis of Yeast Nucleic Acid with Dilute Alkali at Room Temperature. (Conditions of Steudel and Peiser.) P. A. Levene, New York.—p. 9.
Chemical Defense Mechanism of Fowl. J. H. Crowdle and C. P. Sherwin, New York.—p. 15.
Study of Adequacy of Certain Synthetic Diets for Nutrition of Pigeons. K. Sugiura and S. R. Benedict, New York.—p. 33.
Potassium in Animal Nutrition. I. Influence of Potassium on Urinary Sodium and Chlorin Excretion. H. G. Miller, Madison, Wis.—p. 45.
Potassium in Animal Nutrition. II. Potassium in Its Relation to Growth of Young Rats. H. G. Miller, Madison, Wis.—p. 61.
Occurrence of Copper and Zinc in Certain Marine Animals. H. W. Severy, Palo Alto, Calif.—p. 79.

Journal of General Physiology, Baltimore

January, 1923, **5**, No. 3

Studies on Bioluminescence. XV. Electroreduction of Oxyluciferin. E. N. Harvey, Princeton, N. J.—p. 275.
Growth and Respiration of Sulphur Oxidizing Bacteria. S. A. Waksman and R. L. Starkey, New Brunswick, N. J.—p. 285.
Phagocytosis of Solid Particles. IV. Carbon and Quartz in Solutions of Varying Acidity. W. O. Fenn, Boston.—p. 311.
Muscle Tension and Reflexes in Earthworm. A. R. Moore, New Brunswick, N. J.—p. 327.
Study of Equilibrium Between So-Called "Antitrypsin" of the Blood and Trypsin. R. G. Hussey and J. H. Northrop, New York.—p. 335.
*Method for Quantitative Determination of Trypsin and Pepsin. J. H. Northrop and R. G. Hussey, New York.—p. 353.
Influence of Salts When Injected into Animal Body. R. G. Hussey, New York.—p. 359.
Conductivity as Measure of Vitality and Death. S. C. Brooks, Washington, D. C.—p. 365.
Ionization of Protein Chlorids. D. I. Hitchcock, New York.—p. 383.
Influence of Electrolytes on Cataphoretic Charge of Colloidal Particles and Stability of Their Suspensions. II. Experiments with Particles of Gelatin, Casein and Denatured Egg Albumin. J. Loeb, New York.—p. 395.

Quantitative Determination of Trypsin and Pepsin.—A quantitative method is described by Northrop and Hussey which permits a determination of the relative amount of trypsin or pepsin present in a gelatin-enzyme digestion mixture, provided the gelatin and trypsin solutions are purified. This method is dependent on the change in viscosity of such solutions. It is found that the time required to cause a given percentage change in the viscosity is nearly inversely proportional to the amount of enzyme present. It is pointed out that the particular value of the method lies in the fact that enzyme reactions which take place in the presence of "buffer" salts may be studied.

Journal of Laboratory and Clinical Medicine, St. Louis

January, 1923, **8**, No. 4

*Nontoxicity and Antipyretic Efficiency of Tolysin (Ethyl Ester of Paramethylphenylcinchoninic Acid). H. G. Barbour and E. Lozinsky, Montreal.—p. 217.
*Excretion of Sugar in Urine in Health and Disease. L. Kast, H. M. Croll and V. C. Myers, New York City.—p. 227.
*Etiology of Gallstones. S. F. Oliver, Cincinnati.—p. 242.
*Cresylecht Violet; A Rare Dye. B. G. R. Williams, Paris, Ill.—p. 250.
Determination of Urea in Blood by Folin and Wu Method. A Modified Apparatus. G. G. Boggs and W. S. McElroy, Pittsburgh.—p. 254.
Technical Principles in Radial Transmission Sphygmography. H. M. Korns and E. J. Warnick, Cleveland.—p. 256.
*Case of Chronic Hydrocyanic Acid Poisoning. J. Rosenbloom, Pittsburgh.—p. 258.
Fatal Case of Lactic Acid Bacillus Meningitis with Necropsy Findings and Review of Bacillus Mucosus Infection. H. M. Ray, Pittsburgh.—p. 260.
*Relative Value of Some of Commonly Used Methods for Detection of Occult Blood in Stool. H. A. Reimann, Buffalo.—p. 265.
*Quantitative Estimation of Iodin in Urine. H. L. Marsh, Chicago.—p. 271.
Simple Method for Calculating Basal Metabolic Rate. H. L. Haden, Kansas City, Kan.—p. 272.
Apparatus for Cleaning Blood Counting Pipets. R. L. Haden, Kansas City, Kan.—p. 276.
*Formaldehyd Test in Syphilis. D. A. Hohnston, Cincinnati.—p. 277.
Suggestion for Practical Spirometer Valve. G. A. Brough, Chicago.—p. 278.
Concerning Specificity of Cholesterinized Antigens in Serologic Diagnosis of Syphilis: Third Communication. R. A. Kilduffe, Pittsburgh.—p. 279.

Nontoxicity of Tolysin.—Barbour and Lozinsky found that the ethyl ester of paramethylphenylcinchoninic acid (tolysin), given by mouth, even up to doses of 50 gm. per kilogram, or 5 per cent. of the animal's own weight, produces no effect on the general condition of dogs. Tolysin seems to be the least toxic of all substances of demonstrated antirheumatic efficiency. Tolysin exhibits a peculiarity in pharmacologic behavior in that the maximum limit of absorption from the intestine coincides essentially with full therapeutic doses. As cumulation is evidently absent, indefinitely large amounts are nontoxic, at least for dogs.

Excretion of Sugar in Urine.—A comparative study of different methods for the determination of sugar in normal urine has been made by Kast, Croll and Myers. By the use of one of these methods, that of Benedict and Osterberg, it was shown that there is an increase in the amount of reducing sugar excreted hourly after meals. It was found that a diet rich in carbohydrates increases the amount of sugar excreted over that on a low carbohydrate diet. The daily excretion of reducing sugar in the urine was determined in twelve normal persons and 140 hospital patients. In none of the diseases studied, except diabetes mellitus, was there any marked variation from the normal sugar excretion on ordinary diets. Moreover, in diabetes, when by dietary regulation the patient is rendered "sugar-free," the daily amount of sugar excreted is virtually normal.

Etiology of Gallstones.—Oliver summarizes his paper as follows: It would seem that in cases of gallstones and obstructive jaundice, a disturbance in bile salt secretion and excretion occurs. This manifests itself by an increase in bile salts in the urine and blood and a decrease in the bile salt content of the bile. As a result of the deficiency in the bile salt content of the bile, cholesterin tends to settle out of solution. If the condition is not early remedied, gallstones form the end result of this physicochemical disturbance. Further, the increase in bile salts in the blood leads to toxic changes in other organs, notably the kidneys and heart, and also profound constitutional disturbances of a toxemic nature. In all cases of cholemia, hepatic insufficiency is present.

Cresylecht Violet.—In Williams' hands this stain proved of promise in two kinds of pathologic work: (1) in the so-called biopsy, where unfixed tissues are stained for purpose of rapid diagnosis; (2) in diagnostic tissue work or fairly rapid work with frozen liquor formaldehydi fixed tissues where a metachromatic stain saves time and where many sections can be handled quickly, often avoiding double staining, mounting, etc., or in case special double staining is wished in any particular section it may be destained rapidly in alcohol and stained as wished for a mount. By this method a dozen sections can be studied in the same time that the more elaborate methods will give one or two. Moreover such a method is of particular value when the diagnosis is fairly easy, when the interested parties are impatient for a diagnosis and when section should be examined from a number of portions of the neoplasm.

Symptoms of Chronic Hydrocyanic Acid Poisoning.—Loss of energy, vomiting every meal shortly after its ingestion, and secondary anemia, Rosenbloom says, are the earliest symptoms of chronic cyanid poisoning.

Detection of Occult Blood in Stool.—The most reliable and convenient test for occult blood in the stool, in Reimann's opinion, is the Gregerson benzidin technic. The use of the guaiac test in conjunction with it is recommended in order to gain some idea of the quantity of blood, if the amount present be between 1 and 5 c.c. The spectroscope is not recommended for the detection of traces of blood.

Estimation of Iodin in Urine.—The method described by Marsh consists of: first, the determination of the total halogens in the residue from a fused sample of urine by the Volhard-Arnold volumetric method; second, the determina-

tion of the chlorids (Volhard-Arnold) in another fused sample from which the iodin has been removed by the classical method of Gooch. The difference between the total halogens and the chlorids represents the iodin present in the sample of urine.

Formaldehyd Test in Syphilis.—This test was used by Johnston in 100 cases of insanity. In 27 per cent. the Wassermann reaction was plus; in 23 per cent. the formaldehyd test was plus; in 12 per cent. the two tests corresponded; in 11 per cent. the formaldehyd test was plus with negative Wassermann reactions; in 15 per cent. the Wassermann test was positive with a negative formaldehyd test.

Minnesota Medicine, St. Paul

January, 1923, **6**, No. 1

Diagnosis of Gastric and Duodenal Ulcer Without Aid of Laboratory and Roentgen Ray. O. J. Hagen, Moorhead.—p. 1.
Treatment of Duodenal Ulcer. H. S. Willson, Minneapolis.—p. 6.
*Use of Radium in Treatment of Benign Hypertrophy of Prostate. W. A. Dennis, St. Paul.—p. 9.
*Diseases Which May Be Associated with Pernicious Anemia. H. Z. Giffin and John P. Bowler, Rochester, Minn.—p. 13.
*Visual Albuminuria Guide. H. W. Cook, Minneapolis.—p. 16.
Injuries to Lower Birth Canal. J. R. Manley, Duluth.—p. 18.
Malingering with Vengeance. W. W. Lewis, St. Paul.—p. 22.
*11. Preoperative Preparation of Patients with Obstructive Jaundice. End Results in Thirty-Four Cases. W. Walters, Rochester, Minn.—p. 25.
Choosing Anesthesia for General Surgery. J. M. Hayes, Minneapolis.—p. 28.
Diverticulitis of Colon. J. T. Rogers, St. Paul.—p. 35.

Radium in Hypertrophy of Prostate.—Dennis reports six cases of benign hypertrophy of the prostate in which the use of radium according to Barringer's method yielded very satisfactory results. The case reports show that at least 300 or 400 milligram hours may be given a single lobe at one sitting. The six patients had a total of eleven treatments. The placing of the needles has been practically painless and there has been almost no discomfort afterward, except in three instances. In one case the presence of a needle in the prostatic urethra was responsible, and in two cases a chill with high fever followed in about five hours, but had disappeared entirely in one case the next morning, and in the other case after a few days. Dennis believes that his data offer a reasonable hope that benign prostatic hypertrophy may yet be relieved of much of its gravity, and that the perfection of the radium treatment, possibly followed in large middle lobe cases by Young's simple punch operation, may eventually rob this condition of most of its terrors.

Diseases Which May Be Associated with Pernicious Anemia.—In 108 of 628 cases of pernicious anemia analyzed by Giffin and Bowler, other diseases were also present, such as syphilis, hemorrhage, gallbladder disease, chronic sepsis, renal insufficiency and hypertension, carcinoma (breast, colon, uterus, esophagus and stomach), thyroid disease, tuberculosis, diabetes and intestinal parasitism. A general survey of this series of cases leads Giffin and Bowler to conclude that it is doubtful whether the complete pernicious anemia syndrome is ever seen as a result of other disease. The notable and striking exception to this statement is infestation by *Balantidium coli*, which in the four cases in which it was present has always been accompanied by the features of pernicious anemia—glossitis, achlorhydria and subacute combined sclerosis. The absence of active tuberculosis in association with pernicious anemia is a notable feature of the series.

Visual Albuminuria Guide.—By means of a chart consisting of photographic reproductions of actual tests made with known solutions of albumin from a case of nephritis, Cook has devised a visual method of estimating the degree of albuminuria.

Preoperative Preparation in Obstructive Jaundice.—Thirty-four patients with obstructive jaundice were operated on after having first received the preoperative treatment suggested by Walters. None of the patients died of hemorrhage; in only two bleeding occurred from the wounds following operation. All of the patients had jaundice of 2 plus or more (on a basis of from 1 to 4), and 80 per cent. were judged risks 3 or 4 by the consulting surgeon. An estimation of the coagulation time was made according to the method of Lee and White before the administration of calcium chlorid intravenously each day and on the morning of the day of operation. If the coagulation time of the venous blood had not been lowered to less than nine minutes, operation was postponed until such reduction was obtained. Although the coagulation time of the venous blood was nine minutes or less, in some of the patients with jaundice it was thought best to administer calcium chlorid intravenously as a precaution against postoperative hemorrhage. The treatment consists of three intravenous injections of 5 c.c. of a 10 per cent. solution of calcium chlorid.

New Orleans Medical and Surgical Journal

January, 1923, **75**, No. 7

Acute Osteomyelitis in Children; Report of Cases. J. C. Willis, Sr., and J. C. Willis, Jr., Shreveport, La.—p. 337.
Glandular Fever. S. C. Jamison, New Orleans.—p. 346.
Medical Social Service for Childhood of Louisiana. M. Loeber, New Orleans.—p. 350.
*Hyperemesis Gravidarum. T. B. Sellers, New Orleans.—p. 354.
Leukemia. E. L. Irwin, New Orleans.—p. 366.

Vomiting of Pregnancy.—Sellers reports five cases. As soon as the patient is unable to retain a sufficient quantity of food by mouth to nourish her, and keep down an acidosis, he institutes proctoclysis, using 8 per cent. glucose and 2.5 per cent. sodium bicarbonate solution, also Bacon's formula: 20 gm. glucose; 125 gm. beef peptonoids; 3 gm. calcium chlorid; 4 gm. sodium chlorid; 3 gm. sodium bicarbonate and water to make 1,000 c.c. In severe cases the duodenal tube has proved of great value; also intravenous injections of glucose should not be overlooked. Ovarian extract and corpus luteum have not helped in any of Sellers' cases.

Pennsylvania Medical Journal, Harrisburg

January, 1923, **26**, No. 4

Relation of Mental Hospital to Community. J. A. Jackson and H. V. Pike, Danville.—p. 209.
Anthrax. F. B. Utley, Pittsburgh.—p. 213.
Tuberculosis of Bones and Joints. D. P. Willard, Philadelphia.—p. 220.
Syphilis of Bones and Joints. B. F. Buzby, Philadelphia.—p. 223.
*Subjective Symptoms and Differential Leukocyte Count as Aids in Prognosis in Pernicious Anemia. F. A. Evans, Pittsburgh.—p. 228.
*Treatment of Pernicious Anemia. A. H. Colwell, Pittsburgh.—p. 232.
Eye Symptoms in Case of Oxycephaly; Report of Necropsy. C. E. G. Shannon, Philadelphia.—p. 236.
Cardiospasm. H. P. Mosher, Boston.—p. 240.
Phenolphthalein Drug Eruption. J. V. Klauder, Philadelphia.—p. 249.
*Use and Abuse of Corpus Luteum Extract in Toxic Vomiting of Early Pregnancy. J. S. Taylor and S. P. Taylor, Altoona.—p. 252.
*Aneurism of Iliac Artery. F. T. Billings, Pittsburgh.—p. 256.
Important Points in Surgical Treatment of Toxic Goiter. J. Alexander, Pittsburgh.—p. 256.

Symptoms and Leukocyte Count as Aids in Prognosis in Pernicious Anemia.—Evans claims to be able to predict, in a large percentage of cases of pernicious anemia, an oncoming remission several days before it became apparent in the erythropoietic system. Improvement in the level of antihemolytic power of the serum in pernicious anemia precedes an oncoming remission by several days. Such elevation of the antihemolytic power of the serum becomes manifest very early by improvement in the subjective symptoms of the patient and frequently by an increase in the absolute number of polymorphonuclear leukocytes counted. These features, therefore, help one to predict an oncoming remission, and for this reason are an aid to judgment in deciding for or against a proposed blood transfusion.

Treatment of Pernicious Anemia.—Colwell is of the opinion that transfusion of human blood in the treatment of pernicious anemia is useful in stimulating remissions, and that small doses frequently repeated are of as great value as larger ones and less dangerous.

Corpus Luteum Extract in Toxic Vomiting of Early Pregnancy.—The Taylors report two abortions which followed the administration of corpus luteum extract intravenously. They favor the intramuscular route. The dosage must be determined for each patient; the dosages recommended are regarded as being too high. Small dosages frequently repeated, and by intramuscular injection, is said to be the logical method to employ. Corpus luteum extract should be used in those cases of vomiting of early pregnancy which are of toxic type.

Ruptured Aneurysm of Iliac Artery.—Billings' case was one of rupture of an aneurysm of the left common iliac artery, with a moderate dilatation of the right. The walls of the artery showed undoubted syphilitic infiltration.

Philippine Journal of Science, Manila

December, 1922, **21**, No. 6

Additions to Knowledge of Bornean Flora. E. D. Merrill, Manila.—p. 515.
*Schistosomiasis in Philippine Islands. M. P. Mendoza-Guazon.—p. 535.
Coleoptera Fauna of Philippines. Von W. Schultze, Manila.—p. 569.

Schistosomiasis in Philippines.—Ten cases of infection with *Schistosoma japonicum* are reported by Mendoza-Guazon. None of these cases was diagnosed antemortem, partly due to the general belief that schistosomiasis is absent from the islands and partly because of the clinical symptoms, which in a subtropical country can be interpreted as those of malaria, typhoid, dysentery, portal cirrhosis, etc. Another cause is the difficulty of finding the ova in the stools and, when found, of recognizing them. Mendoza-Guazon regards a survey of the existing degree of infection in Manila and in Samar, as well as of the presence of its intermediary host, as being advisable in order to facilitate the enforcement of preventive measures.

Public Health Journal, Toronto

January, 1923, **14**, No. 1

Vice and Drugs in Montreal. A. K. Haywood.—p. 1.
Prevention of Tuberculosis in School Age. J. H. Holbrook.—p. 19.
Sewage Treatment for Isolated Houses and Small Institutions Where Municipal Sewage is Not Available. B. E. Parry.—p. 27.

Southwestern Medicine, Phoenix, Ariz.

January, 1923, **7**, No. 1

State Medicine. M. K. Wylder, Albuquerque, N. M.—p. 1.
Treatment of Vincent's Angina with Sodium Perborate. W. W. Waite, El Paso, Tex.—p. 4.
Compound Fractures of Extremities. R. L. Ramey, El Paso.—p. 6.
Metamorphosis of Pathologic Conditions of Abdomen. E. C. Prentiss, El Paso.—p. 8.
Glycosuric Nephritis, A Clinical Entity? C. S. Vivian, Phoenix.—p. 12.

Surgery, Gynecology and Obstetrics, Chicago

January, 1923, **36**, No. 1

Rhinoplasty and Cheek, Chin and Lip Plastics with Tubed, Temporal Pedicled, Forehead Flaps. C. A. McWilliams and H. S. Dunning, New York.—p. 1.
*Parathyroid Hyperplasia and Bone Destruction in Generalized Carcinomatosis. P. Klemperer, Chicago.—p. 11.
*Unilateral Diuresis. A. Fullerton, Belfast, Ireland.—p. 16.
Regeneration of Resected Urinary Bladders in Rabbits. H. Schiller, Chicago.—p. 24.
Diverticula of Bladder in Children. A. Hyman, New York.—p. 27.
Bladder Neck Obstructions: Their Surgical Relief in Reference to Young Punch. W. P. Parker, Los Angeles.—p. 36.
Clinical Investigation of Vulvovaginitis. I. F. Stein, Chicago.—p. 43.
*Metabolism Readings in Eighty-Four Pregnant Cases. E. L. Cornell, Chicago.—p. 53.
Recurrence of Benign Prostate. W. A. Bryan, Nashville, Tenn.—p. 59.
Necessity for Caution in Employment of High Voltage Roentgen Rays as Therapeutic Agent Against Malignant Disease: Acute Suprarenal Insufficiency and Death as Sequels. F. Smithies, Chicago.—p. 61.
*Radium Treatment of Keloids. E. M. Daland, Boston.—p. 63.
*Blood Supply of Thyroid; Its Surgical Significance. E. V. Mastin, Rochester, Minn.—p. 69.
*Histologic Study of Effect of Ligation of Thyroid Vessels in Exophthalmic Goiter. A. S. Giordano and Harold D. Caylor, Rochester, Minn.—p. 75.
Hemorrhage Following Abdominal Operations: With Special Reference to Appendicectomy and Excluding Bleeding from Stump. C. H. Phifer, Chicago.—p. 80.
*Distribution of Acid Cells Along Dorsal Curvature of Stomach and Possible Relation to Occurrence of Gastric Ulcer. H. E. Radasch, Philadelphia.—p. 87.
Tetanus: Report of One Hundred Sixteen Cases. R. H. Miller, Boston.—p. 90.
*Bone Grafting. W. R. Adams, Savannah, Ga.—p. 97.
*Damper Gastro Enterostomy. J. C. O'Day, Honolulu.—p. 99.
Prostatic Problem. D. W. MacKenzie and M. I. Seng, Montreal.—p. 102.
No Hand Touch Technic. A. R. Grant, Utica, N. Y.—p. 106.
Pituitary Extract in Third Stage of Labor. S. Seides, New York.—p. 108.

Parathyroid Hyperplasia and Bone Destruction in Generalized Carcinomatosis.—In Klemperer's case removal of both mammary glands for cancer was followed six months later by pains in the back. On physical examination, she complained of pain over most body structures, especially in the spinal region. The roentgen-ray examination showed multiple cancer metastases in the whole skeleton. At the necropsy, numerous tumor nodes were found in both lungs. The most significant condition, however, was the state of the skeleton. The spine in its whole extent could be cut easily with the cartilage knife; in the right femur large and small nodules, narrowed the cortical substance, while they destroyed the spongy substance of the bone in the epiphysis. There were also metastases in the cranial and sternal bones. The extensive destruction of bone tissue led to an examination of the parathyroid glands. On dissection three were found in normal places; they seemed to be unaltered in size. In the place of the left inferior parathyroid was an oblong, kidney-shaped body 30 by 5 by 3 mm. in size, entirely separated from the thyroid gland. It was yellow in color, and dense in consistency. The histologic picture of the bone metastases revealed not only an extensive bone destruction but also a noticeable new formation of osteoid tissue.

Unilateral Diuresis.—Fullerton aims to establish the importance of diminished specific gravity of the urine on the affected side as a sign of unlateral disease of the kidney or disturbance of its function. Forty-eight cases were examined. Thirty-two were verified by operation; in nine cases calculi were passed, and in one case several small stones were discharged through a sinus in the loin. Four cases were bilateral and three of these patients were examined shortly after the calculus had escaped from the ureter. This leaves forty-one cases of unilateral renal calculus examined while the stones were in position. In thirty-one cases the specific gravity was diminished on the affected side. In about 50 per cent. the specific gravity was as low as 1.005 or less on the affected side, as against from 1.015 to 1.025 on the sound side. In two cases the specific gravity was a little higher on the affected side, and in the remaining eight cases it was equal on the two sides. Forty-one cases of tuberculous kidney were examined. Three of these were bilateral and had an equal specific gravity on the two sides. In one case, which was unilateral, there was a low specific gravity, 1.005, on both sides. In all the remaining cases the specific gravity was reduced on the affected side. Thirty-nine cases of unilateral pyelitis were examined. Of these, thirty-three showed a diminished specific gravity on the affected side. Nine cases of tumor originating in the kidney were examined. In seven of these the specific gravity was lower on the affected side. In addition, there were four cases in which the kidney had been involved by extension from a neighboring tumor in the abdomen. In three of these cases there was diminished specific gravity on the affected side. In the remaining case the specific gravity on the affected (left) side was higher than on the sound (right) side, but the right kidney was movable. Two cases of congenital cystic kidney were examined. In one case the specific gravity was low (1.005) on both sides. Fifteen cases of hydronephrosis and four cases of pyonephrosis were examined, and all showed a diminished specific gravity on the affected side. Fifteen cases of movable kidney were examined, and in eight of these the specific gravity was lower on the affected side. Thirty-seven cases classified under the heading of renal hematuria were examined. These were due to such diverse conditions as congenital hemophilia, Henoch's purpura, bilateral nephritis, and the condition known as "essential renal hematuria" or "symptomless hematuria." In twenty-eight the specific gravity was equal on the two sides. In the condition described as "essential renal hematuria" or "symptomless hematuria" the specific gravity is, as a rule, equal on the two sides, and the absence of evidence of disease of the kidney, as seen at operation, would rather lead one to expect this. Forty-four patients were examined for pain in the renal region of such a nature and of sufficient severity to be dignified by the term "renal colic." A definite diagnosis of the cause of the pain was not made. In twenty-seven cases the specific gravity was lower on the side of the pain. Nineteen cases of gunshot wounds of the kidney were examined. In nine of these the specific gravity was lower on the affected side.

Basal Metabolism in Pregnancy.—The findings obtained by Cornell in eighty-four cases indicate that there is an increase

in the metabolic rate above normal in pregnant women. It has a wide variation, however. There is nothing approaching a constant. The test is subject to many errors beyond the control of the technician. The mental attitude of pregnant women is not stable, therefore the readings are not always reliable. The results in toxic cases were so variable that no reliable information was obtained. The death of the fetus cannot be predicted from the metabolic rate.

Radium Treatment of Keloids.—In every case treated by Daland with radium benefit accrued. Twenty-six patients have had a complete destruction of their lesions. The first evidence of relief was the development of a certain amount of anesthesia in the lesion. Later, there was a disappearance of the itching and pulling sensation. Finally, there was a softening of the scar. There was less variation from the normal color of the skin in the cases treated with absorption doses. In a few of the cases treated with ulcerating doses, telangiectasis followed, but this was by no means always true. There was no evidence to show that the tendency of a given individual to develop these lesions was influenced by the treatment of any one lesion by radium.

Blood Supply of Thyroid: Its Surgical Significance.—Mastin shows that the thyroid has a very rich arterial and venous blood supply. There is an extensive anastomosis not only between vessels of the same lobe, but also with those of the opposite lobe. In the event of ligation of all four thyroid vessels, the circulation can be reestablished through extraglandular anastomosis. The secretory activity of the thyroid gland is under nerve control. After ligation of the superior thyroid artery, a polar ligation should be made in order to cut off the veins, lymphatics and remaining nerve filaments. Control of hemorrhage is best accomplished by interrupted mattress sutures placed through the remaining gland tissue, by ligation of all bleeding points, and by the use of gauze packing in the wound if necessary. Bleeding veins can often be demonstrated by having the patient strain or cough before the wound is closed.

Effect of Ligation of Thyroid Vessels in Exophthalmic Goiter.—A study was made by Giordano and Caylor of the histology of the thyroid gland for the purpose of determining, if possible, whether any consistent involution changes could be demonstrated following ligation and, if such changes were found, whether or not they could be correlated with the clinical course of the case between the date of ligation and the thyroidectomy. Of the fifty cases of ligated hypertrophic parenchymatous thyroid studied in detail, definite involution changes were found in thirty-three (70 per cent.), while sufficient distinguishing contrast between the ligated and unligated poles could not be demonstrated in the remaining fifteen. In general, this study shows that distinct clinical improvement and lowering of the basal metabolic rate occurred more often in those cases in which definite involution changes in the ligated pole could be demonstrated histologically. On the other hand, a few definite exceptions demonstrated that a correlation between the clinical findings and the presence or absence of involution changes is not to be expected in all cases.

Relation of Acid Cells in Stomach to Ulcer.—Although there seems to be some relation between the occurrence of gastric ulcers in the different regions of the stomach and the distribution of the acid cells, Radasch says that the evidence is too little to be conclusive.

Bone Grafting.—Adams takes the graft which is to be implanted intramedullarly from the fractured bone, either above or below the line of fracture, depending on which would be the more practical, considering the location of the fracture, muscles, blood vessels and nerves. The graft should be about 4 or 5 inches long and should not extend closer than within 2 inches of the fracture. The graft is cut with the twin saw. The ends, one of which is blunt, the other pointed, are cut with a single saw. The graft includes the periosteum and endosteum. The pointed end is inserted into the opening from which the graft has been cut, is pushed into and down the medullary canal past the line of fracture, into the medullary canal of the other end of the fractured bone, so that 2 or 3 inches lies in the proximal and a similar length in the distal part of the fractured bone, thus bridging the fracture. As the graft is the exact width of the medullary canal, it fits snugly and holds the fractured bones firmly and in good position.

Damper Gastro-Enterostomy.—In O'Day's operation three lines of suture are made—the second line being seromuscular. After the stomach and jejunal walls are divided on either side of this line, respectively, there is left a sort of damper or "flapper" valve. O'Day claims for his method that it will entirely do away with all the menacing postoperative features of the earlier operation: retarded hemorrhage, ulceration of that portion of the stomach wall pressed by the blades of the clamps, regurgitation of bowel contents, and ulceration of the jejunal wall where it is forcibly struck by the chyme.

Virginia Medical Monthly, Richmond

January, 1923, **49**, No. 10

Focal Infection in Chronic and Recurring Disease. C. H. Mayo, Rochester, Minn.—p. 557.
*Tuberculosis Problem and Negro. H. R. M. Landis, Philadelphia.—p. 561.
*Tuberculosis in Rural Virginia. H. R. Edwards, Richmond.—p. 566.
Is Progress Being Made in Surgical Treatment of Acute Abdominal Conditions? A. M. Willis, Richmond.—p. 573.
Forces Which Prevent Modern Medicine from Being a Success. A. A. Houser, Richmond.—p. 578.
Regional Anesthesia. S. Leigh and J. H. Culpepper, Norfolk.—p. 581.
Case of Abscess of Lower Right Lobe of Lung Treated by Artificial Pneumothorax. C. L. Harrell, Norfolk.—p. 585.
Where Can We Find Cases of Incipient Tuberculosis? C. R. Grandy, Norfolk.—p. 586.
Therapeutic Use of Bacillus Acidophilus Milk in Richmond. G. F. Reddish and E. C. L. Miller, Richmond.—p. 590.
Treatment of Eclampsia. J. L. Early, Saltville.—p. 595.
Relation of Medical Examiner to Life Insurance Company. J. H. Dunkley, Roanoke.—p. 599.
Prevalence of Unsuspected Chronic Maxillary Sinus Infection. E. T. Gatewood, Richmond.—p. 601.

Tuberculosis in Negro.—Tuberculosis in the negro, Landis says, is an interesting chapter in the etiology of this disease. He here relates the experience gained by the Phipps Institute in its fight against tuberculosis among negroes. A special clinic is in charge of a capable colored physician, who has colored nurses to help him. At present a force of six nurses and three physicians is working among the colored population. In addition, the Jefferson Hospital for Diseases of the Chest has one colored physician and one nurse. In addition to its specific problem of dealing with tuberculosis, the Phipps Institute conducts a prenatal and postnatal clinic and a syphilis clinic. Each member of the graduating class of the Mercy Hospital (a negro institution) serves for a period of two months. While the time is short, it gives these nurses some idea of the tuberculosis and public health problems. The first nurse taking this course was sent to Wilmington, Del., to take charge of a negro tuberculosis dispensary which had been a failure. As a result of her energy the attendance at this dispensary was tripled in two months and the dispensary days increased from one to three. Taking all these experiences into consideration, this deduction would seem warranted: That those institutions that make use of negro doctors and nurses for the care of patients of the same race are, from the standpoint of number of patients and regularity of their attendance, most successful in the treatment of negro patients.

Standardized Method of Diagnosis in Tuberculosis.—Edwards suggests the need of some standardized method of diagnosis. It is now sometimes difficult to understand exactly what is meant by certain tuberculosis diagnosis. If a set standard could be adopted, all cases could be classified in accordance.

West Virginia Medical Journal, Huntington

January, 1923, **17**, No. 7

General Practitioner's Compensation. O. S. Hare, Bluefield.—p. 241.
Profiteers. C. H. Maxwell, Morgantown.—p. 249.
Diagnosis and Treatment of Carcinoma of Cervix. W. Neill, Jr., Baltimore.—p. 258.
Doctor and Public Health Service in Their Relations to the Public. N. R. Price, Marlinton.—p. 263.
Prognostic Value of Blood Chemistry in Surgery. J. C. Bauer and R. W. Stoneburner, Montgomery.—p. 265.
Modern Conception of Amputation. R. K. Buford, Charleston.—p. 270.
Management of Hypertension. W. B. Porter, Roanoke.—p. 273.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Archives of Radiology and Electrotherapy, London

December, 1922, **27**, No. 269

Employment of Electrical Methods in Diagnosis and Prognosis of Paralysis Due to Lesions of Peripheral Nerves. G. Bourguignon.—p. 193.

Manual Treatment of Backache and Referred Pain. Wetterwald.—p. 212.

British Medical Journal, London

Jan. 13, 1923, **1**, No. 3237

*Clinical Manifestations of Tabes Dorsalis. G. Holmes.—p. 47.

*Applications of Physiology to Medicine. I. Sensory Phenomena Associated with Defective Blood Supply to Working Muscles. J. A. MacWilliam and W. J. Webster.—p. 51.

Clinical, Pathologic and Radiologic Aspects of Infection of Teeth and Gums. W. Willcox.—p. 53.

Value of Butyn as Local Anesthetic. W. M. Beaumont.—p. 57.

Standards of Vision for Scholars and Teachers in Council Schools. N. B. Harman.—p. 58.

*Effect of Anesthetics on Lungs. R. J. S. McDowall.—p. 61.

Intestinal Obstruction Following Acute Appendicitis and Peritonitis. P. F. McFarlan.—p. 61.

Diagnosis of Tabes Dorsalis.—The diminution, loss, or alteration of sensibility to pinprick in the distal portions of the lower limbs, the thoracic zone, the radial borders of the arms, and the central portion of the face, Holmes points out, constitutes the most common, the most definite, and the most characteristic physical sign of tabes dorsalis. It is frequently present when the knee-jerks and the pupillary reactions are normal and before ataxia or other symptoms develop, and it is consequently a most important phenomenon in the diagnosis of the disease. The loss of sensation in these areas is a dissociated one—that is, its different modalities are affected in different degrees, or some forms only may be disturbed. Touch, for instance, is frequently intact on the chest and face at least, and the affection of thermal sensibility is inconstant and irregular. Its diagnostic value is enhanced by the fact that in no other disease is there dissociated analgesia of a similar distribution.

Sensory Phenomena Associated with Defective Blood Supply to Working Muscles.—MacWilliam and Webster investigated the behavior of human muscles temporarily deprived of their blood supply while innervation remained intact; the sensory phenomena recognizable in the states of rest and activity were examined and brought into relation with other functional conditions, such as changes in contractile power, etc. It was found that simple deprivation of blood in the ischemic limb for periods up to twenty minutes caused no great sensory effects, only coldness in the bloodless part, with an inclination to shift the position of the limb, and a certain amount of discomfort from the continued constriction by the obliterating armlet; the absence of pain is to be noted. Muscular action in the ischemic limb soon becomes painful, and when carried to the point of "fatigue" is acutely painful. The pain arises from exercise of a comparatively small amount of muscular tissue—in the presence of an acute lack of blood supply, involving urgent want of oxygen (anoxemia) and its consequences, with excessive accumulation of metabolic products, acids, and other bodies. The authors are convinced that the pain is protective in character, tending to limitation of effort and shielding the muscle from being spurred on to further and injurious activity. These observations have a close bearing on the problems associated with the pain of angina pectoris, and the experiments also have an obvious application to the phenomena of the condition called "intermittent claudication," as seen in the legs of men and horses, in which muscular exertion is interrupted by attacks of pain, loss of power, coldness of the limbs, etc.

Effect of Anesthetics on the Lungs.—Recovery from the pulmonary effects occurs after ether, McDowall says, but after deep and prolonged anesthesia with chloroform recovery is the exception. The actual death of tissue in the lungs as a result of the anesthetic does not appear to be a remote possibility: that the absorption of toxic products from such dead tissue should produce delayed chloroform poisoning seems most reasonable. Another function abolished is that of the bronchioles, which limit the amount of air passing into the alveoli. McDowall has demonstrated that the action of epinephrin on the bronchioles may similarly be prevented by deep anesthesia. The evidence indicates that deep or prolonged anesthesia with ether, and especially with chloroform, should be avoided whenever possible. It is suggested that narcotics should be more extensively used to supplement volatile anesthetics.

Irish Journal of Medical Science, Dublin

December, 1922, **5**, No. 10

What Makes for Success in Surgical Treatment. W. I. de C. Wheeler.—p. 437.

Enteric-Salmonella Bacilli. W. D. O'Kelly.—p. 452.

Oil-Ether Colonic Anesthesia by Control Method. A. E. Boyd.—p. 472.

Japan Medical World, Tokyo

December, 1922, **2**, No. 12

*Experimental Results of Artificial Production of Mammary Carcinoma in Last Five Years. K. Yamagwa and K. Murayama.—p. 337.

*Amounts of Enzymes in Duodenal Fluid in Exophthalmic Goiter. K. Gyotoku.—p. 339.

*Influence of Corean Ginseng on Metabolism. S. Inada and J. Takamizu.—p. 343.

Relation of Immunity and Bactericidal-fast Bacillus Mallei. H. Toyota and D. Kaku.—p. 345.

Artificial Production of Breast Cancer.—During the last five years Yamagwa and Murayama inoculated pure tar, tar extract, tar extract lanolin, tar lanolin, liquid paraffin or tar olive oil, but mainly tar or tar lanolin, into the mammary regions of 188 female rabbits, in doses from 0.3 to 1 c.c., once or twice a month. In twenty-three rabbits, or 12.23 per cent., carcinoma developed.

Enzymes in Duodenal Fluid in Cases of Exophthalmic Goiter.—A quantitative determination was made by Gyotoku of the enzymes contained in the duodenal fluid in twenty cases of exophthalmic goiter. In 60 per cent. of the cases these enzymes were diminished in amount. These patients also had marked digestive disturbances. There was no relation between the amount of enzymes in the duodenal fluid and the degree of disturbances of carbohydrate metabolism.

Influence of Ginseng on Metabolism.—Inada and Takamizu assert that when ginseng is taken in large amount, there is a slight increase of splitting of body protein, but not enough to reduce the body weight. As the result of temporary stimulation, the urine output is increased, but it soon decreases markedly, and returns to normal after a while. Although ginseng decreases the urine output, it has no influence on the constituents of the urine.

Lancet, London

Jan. 6, 1923, **1**, No. 1

Modern Methods of Diagnosis and Treatment of Syphilis of Nervous System. F. W. Mott.—p. 1.

Treatment of Syphilis; Especially Its Later Manifestations. L. W. Harrison.—p. 4.

*Tuberculous Affections of Tongue. R. M. Handfield-Jones.—p. 8.

*Forms of Tuberculous Arthritis and Their Treatment. E. Ward.—p. 11.

Thoracic Surgery: War Lessons in Civil Practice. R. P. Rowlands.—p. 16.

*Identity of Toxins Produced by Serologically Different Strains of Diphtheria Bacillus. P. Hartley.—p. 17.

*Wagner's New Treatment of General Paralysis. A. Pilcz.—p. 19.

*Bacteriology of Ozena. K. Sakagami.—p. 19.

*Case of Primary Carcinoma of Lung. H. J. C. Gibson and G. M. Findlay.—p. 21.

*Diabetes Mellitus in an Infant Aged Five Months. H. T. Ashby.—p. 22.

*Endothelioma of Male Breast Following an Injury. H. K. Griffith.—p. 22.

Barium in Harrogate Waters. A. Woodmansey.—p. 22.

Two Cases of Congenital Hemihypertrophy. D. Paterson.—p. 23.

Tuberculosis of Tongue.—Five cases of lingual tuberculosis are reported by Jones. An inquiry made of ten general hospitals and ten sanatoriums revealed only twelve cases. The author's patients ranged in age from 28 to 59 years. Three were males. Pulmonary tuberculosis was present in all of them. In one case a diagnosis of cancer was made. Microscopic examination of the tissue removed confirmed the diagnosis of tuberculosis in each case.

Tuberculous Arthritis.—A new classification for tuberculous joints is suggested by Ward: (1) monarticular tuber-

culous arthritis: (*a*) major and (*b*) minor arthritis; (2) polyarticular tuberculous arthritis: (*a*) suppurative, (*b*) rheumatoid, (*c*) osteoarthritic, and (*d*) arthritis deformans; (3) tuberculous rheumatism; (4) aberrant forms of tuberculous arthritis. A minor tuberculous arthritis is described. Relative, rather than absolute, immobilization for tuberculous joints is advised. Short cuts in the treatment of tuberculous arthritis are discussed.

Efficacy of Monovalent Diphtheria Antitoxin.—Fifteen strains of the diphtheria bacillus were investigated by Hartley. The results obtained are in agreement with those obtained by Paxson, Redowitz, Park, Williams and Mann. Further, these results obtained experimentally in the laboratory are in accord with the vast amount of clinical evidence concerning the efficacy of monovalent diphtheria antitoxin which has been accumulated during the last twenty-five years all over the world. Hartley says it is reasonable to suppose that if different strains of diphtheria bacilli produced toxins which exhibited wide differences in their affinity for antitoxin, evidence—or at least indications—of this would have been forthcoming from workers studying diphtheria from the clinical side. As Park, Williams and Mann have pointed out, ever since diphtheria antitoxin has been used in practice hundreds of thousands of persons known to be contacts have been given practically complete protection for two weeks by the injection of monovalent antitoxin; and, further, routine virulence tests throughout the world have shown that a monovalent antitoxin protects animals against a dose of living culture fatal to animals not given antitoxin.

Wagner's Treatment of General Paralysis.—The von Wagner treatment consists in the subcutaneous injection of the blood of an untreated malaria patient into a general paralytic. Pilcz reports his experiences with this method of treatment in 141 cases. Fifty-one patients have completely recovered; eighteen show marked and persisting remission without being able, however, to return to their former occupations. Fifty-seven cases became stationary or showed an incomplete remission. Fifteen patients died. Pilcz points out that there is no parallelism in the degree and duration of the remissions, on the one hand, and in the serologic reactions (lumbar fluid, etc.) on the other. The best results are obtained in cases with maniacal symptoms and in cases of simple demency; the hypochondriacal, presenile and catatonic forms of disease show a less favorable prognosis. Generally, remission does not immediately follow treatment; it develops gradually, finally becoming permanent. This method is employed, not only in cases of general paralysis, but also in tabes and other forms of neurosyphilis. In disseminated sclerosis, also, good results have been obtained.

Bacteriology of Ozena.—The results of Sakagani's experiments, briefly, were: The so-called ozena bacillus, obtained from the nasal passages of ozena patients, agrees in all important points with the coccobacillus of Perez. The coccobacillus is to be found only in ozena patients, and not in persons suffering from other nasal diseases nor in healthy persons. By experimental infection of the nasal passages of rabbits, Sakagani was able to produce symptoms closely agreeing with those of human ozena. In the various immune tests with this coccobacillus the serum of ozena patients generally showed a weak reaction; with some patients, however (i. e., those tending toward recovery), the specific reactions were remarkably strong. It could be demonstrated that the serum from a rabbit immunized against this coccobacillus produces various immune bodies with great intensity. In animal experiments with this bacillus the presence of immune bodies in the serum was clearly demonstrable; on the other hand, the reactions of the serum of most patients were rather weak. This can be explained from the nature of the disease, which causes merely local changes, so that in the general circulation the antibodies appear only in small quantities. From these experiments Sakagani is convinced that his coccobacillus may be considered to be the causative agent of ozena.

Primary Carcinoma of Lung.—The primary lung tumor in the case reported by Gibson and Findlay was composed of cylindric columnar cells, arranged for the most part in papillary-like tufts. Much of the tumor had undergone a myxomatous type of degeneration. No evidence of a tuberculous process could be detected in either lung. A columnar type of cell was found in a pancreatic metastasis. In the suprarenals, however, the cells showed more irregularity in their shape; some were columnar; others were definitely polyhedral, while the general arrangement was more diffuse. In the secondary growths present in the skin and muscles a definite squamous cell metaplasia had taken place; all transitional types of cell were noted, from columnar epithelium to squamous epithelium, the latter, arranged in cell masses, resembling those found in a typical squamous epithelioma. There was no actual formation of keratin by these squamous cells.

Diabetes Mellitus in Infant Aged Five Months.—Ashby's patient was admitted to the hospital with the diagnosis of pyelitis. She had a dry, scaly skin, which seemed to irritate. The urine (catheter specimen) was acid and cloudy, and contained a small quantity of albumin. Microscopically pus cells and *B. coli* in large numbers were seen. During the first three weeks in the hospital the baby gradually lost weight, had frequent loose stools, had a continuous rise of temperature, and was always restless. The urine became much clearer and less acid, though the temperature became higher. At the end of the third week, the second toe of the left foot became black and gangrenous. The urine was positive for sugar. There was never enough urine to estimate with accuracy the amount of sugar or the specific gravity. Two days later, the second toe of the opposite foot started in the same way. A fortnight later both toes came off and the surrounding skin became healthier. The loss of weight was slow but gradual. The baby died six weeks after admission.

Endothelioma of Male Breast Following Injury.—In April, Griffith's patient, a man, aged 50, received a blow from a horse's bit just above the right nipple. At the end of May the condition had cleared up, except for a definite cystic tumor, which was freely movable in the surrounding tissues and not attached to the skin. In July, conditions were such that operation was advised. The breast was removed. The tumor (macroscopically) was encapsuled, and did not infiltrate the breast tissue or the skin, which was much stretched over it at one point. The sections showed a degenerating endothelioma. It seems probable to Griffith that the injury led to the formation of a hematoma, and the irritation caused by the presence of this blood clot gave rise to so much endothelial proliferation that an actual tumor, an endothelioma, arose in that situation.

Sei-I-Kwai Medical Journal, Tokyo, Japan

December, 1922, **41**, No. 6

*Influence of Some Antiseptics and Narcotics on Movement of Spermatozoa. Y. Ishikawa.—p. 1.
*Experiments in Deep Breathing on Animals for Its Prophylactic Effects on Pulmonary Tuberculosis. S. Otabe.—p. 21.
*Tubercle Bacilli in Blood Stream of Tuberculous Animals. S. Otabe.—p. 32.

Influence of Antiseptics and Narcotics on Movement of Spermatozoa.—This paper is concerned with the influences of some antiseptics and narcotics, in dilute solution, on the movement of spermatozoa outside the body. The chief purpose of Ishikawa's investigation was aimed at the theoretical basis of the modern methods of preventing conception.

Prophylactic Effect of Deep Breathing on Pulmonary Tuberculosis.—Otabe's experiments confirm the theory that deep breathing has a retarding influence on the tuberculous process. The process in the lungs of animals to which deep breathing was applied was less developed than in the controlled animals.

Tubercle Bacilli in Blood Stream.—Otabe's investigation was negative. He used water freshly distilled every day. Although clinically the experiment animals gave every evidence of tuberculosis, he never found tubercle bacilli in the blood microscopically, nor was he able to obtain a culture from the blood.

Bulletin de l'Académie de Médecine, Paris

Dec. 26, 1922, **88**, No. 43, The Pasteur Centennial

*President's Address. A. Béhal.—p. 621.
*Pasteur and General Biology. Delezenne.—p. 636.

*Pasteur's Work and Medicine. F. Widal.—p. 646.
*Pasteur's Work and Surgery. P. Delbet.—p. 658.
*Pasteur's Work and Obstetrics. V. Wallich.—p. 673.
Pasteur's Work and Veterinary Medicine. Barrier.—p. 679.
*Pasteur's Work and the Progress of Hygiene. A. Calmette.—p. 684.

Pasteur's Centenary.—The addresses published in this number were delivered at the Pasteur centennial celebration at the Académie de Médecine, and were reviewed in the Paris Letter, January 27, p. 265.

Bulletin Médical, Paris

Dec. 9, 1922, **36**, No. 50

*The Liver in Children. P. Lereboullet.—p. 1009.
Surgical Treatment of Adenosarcoma of Breast. T. Asteriades.—p. 1015.

The Liver in Children.—Lereboullet surveys the symptomatology and pathology of the liver in children. The liver is relatively larger than in adults, and palpation is of great importance. In testing for alimentary glycosuria, comparatively large amounts of glucose should be used, for instance, 80 gm. for a child of 20 kg. The test is frequently positive in rachitis, scarlet fever, diphtheria and gastro-enteritis.

Dec. 16, 1922, **36**, No. 51

*Biologic Treatment of Gonorrhea. A. Grimberg and M. Uzan.—p. 1035.

Biologic Treatment of Gonorrhea.—Grimberg and Uzan review the nonspecific biologic treatment of gonorrhea. They point out that antimeningococcus serum is not effective against variant types of meningococcus. Antigonococcus serum and vaccines may have only a slightly greater value than nonspecific preparations, but the specific action is an advantage. The doses of the specific vaccine have to be very large.

Bulletins de la Société Médicale des Hôpitaux, Paris

Dec. 8, 1922, **46**, No. 35

*Bronze-Skin Not Due to Addison's Disease. A. Sézary and J. Levesque.—p. 1644.
*Lineal Striae After Right Pneumothorax. E. Rist and P. Jacob.—p. 1646.
*Purulent Gonorrheal Arthritis. B. Weill-Hallé and Turpin.—p. 1649.
*Cardiac Infantilism. C. Oddo and E. Girbal.—p. 1652.
*Chronic Lymphoid Leukemia. J. Tapie.—p. 1656.
*Hereditary and Familial Exostoses. E. Lenoble and Y. Jégat.—p. 1661.
*Induced Pneumothorax with Normal Pregnancy. A. Gendron.—p. 1669.
*Localized Tetanus of Right Leg. A. Bergé and R. Azoulay.—p. 1674.

Bronze-Skin Not Due to Addison's Disease.—Sézary and Levesque present the clinical history and histologic findings of a tuberculous woman who had all the symptoms of Addison's disease except increased fatigability and low blood pressure. Necropsy confirmed the clinical supposition of normal suprarenal capsules.

Parallel Striae After Right Pneumothorax.—Rist and Jacob present the case of a young girl with many parallel striae on the side opposite to an artificial pneumothorax. The side with the striae was 6 cm. broader than the side with the pneumothorax. Abnormal fragility of the skin is the probable cause.

Purulent Gonorrheal Arthritis Cured by Serotherapy.—Weill-Hallé and Turpin present a case of purulent gonorrheal arthritis with recovery after intra-articular serotherapy. Intravenous injections of calcium chlorid influenced favorably the serum disease.

Cardiac Infantilism.—Oddo and Girbal report a case which they call cardiac infantilism, because they attribute the lack of genital development in the 16 years old girl to a mitral stenosis acquired in early childhood.

Chronic Lymphoid Leukemia.—The patient died of lobar pneumonia. The alveolar exudate consisted of polymorphonuclears, while the capillaries were filled with lymphocytes.

Hereditary and Familial Osteogenous Exostoses.—Lenoble and Jégat suggest that tuberculous infection may influence the whole body in a way similar to syphilis, and cause endocrine disturbances entailing malformations in the offspring.

Induced Bilateral Pneumothorax with Normal Intercurrent Pregnancy.—Gendron performed a left pneumothorax on his patient in 1919. In 1921 the woman became pregnant, and tuberculosis developed in the right lung. He allowed the resorption of the left pneumothorax, and instituted another on the right side which he has continued with good success for ten months to date.

Hyperchronic Tetanus Localized in Leg.—Bergé and Azoulay's patient had been wounded in his right knee by fragments of a shell in 1915. Contracture developed in this leg, with a perforating ulcer, two years later. The contractions varied in strength and extent and, to relieve the causalgia, sympathectomy was done but without benefit. The tetanus in the limb became more pronounced and in 1922 extended to the whole body, except the face, and proved speedily fatal, rebellious to antitetanus treatment.

Dec. 15, 1922, **46**, No. 36

*Diagnosis of Addison's Disease. E. Sergent.—p. 1679.
*Treatment of Bronchiectasis. L. Ribadeau-Dumas and Mocquot.—p. 1688.
*Arthrotyphoid. H. Bourges.—p. 1691.
Mixed Epidemic Encephalitis. H. Bourges and M. Breuil.—p. 1696.
*Diastolic Murmur in Hypertension. A. Bergé and G. Basch.—p. 1700.
Unilateral Pulmonary Tuberculosis with Cavity Improved by Artificial Pneumothorax. G. Caussade and Derville.—p. 1706.
*Duodenal Intubation in Jaundice. E. Chabrol et al.—p. 1710.
Hydrocephalus with Obesity. Bonnet et al.—p. 1723.
Gonococcus Abscess of Wrist and Hand. Klippel and Rachet.—p. 1731.

Diagnosis of Addison's Disease.—Contrary to Sézary, Sergent contends that it is possible to make a safe clinical diagnosis of Addison's disease even in the absence of some signs, and gives a new example. He believes that extremes in critical analysis are just as dangerous as abuses of generalization.

Surgical Treatment of Bronchiectasis.—The woman, aged 35, had suffered for twenty years from bronchiectasis which showed at last signs of a cavity, hemoptysis and purulent sputum. Pneumonotomy performed after delivery of a child, was followed by almost complete success.

Arthrotyphoid.—Bourges publishes three cases of typhoid affecting joints in its acute stage.

Diastolic Murmur in Nephritis Hypertension.—Bergé and Basch attribute the diastolic murmur in their case of nephritic hypertension to two small congenital openings in the aortic valves. In the discussion of the case, Laubry expressed the opinion that the diastolic murmurs in similar cases of hypertension are due to dislocation of the valve opening by dilatation of the ventricle. They may be present even with healthy valves.

Duodenal Intubation in Jaundice and Cirrhosis of the Liver.—Chabrol, Bénard and Gambillard studied the secretion of bile in forty patients with affections of the liver. In some cases the examination was repeated several times. The most interesting result was the observation that in atrophic cirrhosis of the liver, there need not be diminution of the biliary pigments nor of the salts. Obstruction in catarrhal jaundice is rarely absolute. This is sufficiently constant to explain the direct origin of stercobilin in the stools. They doubt the theory of dissociated icterus. In every jaundice the amount of salts is comparatively lower than that of bilirubin. This is due sometimes to exaggerated hemolysis. In other cases, it seems that Schiff's law (circulation of biliary acids from the liver to the intestine and back), explains the loss of acids and their lack in the bile when the circle is interrupted.

Journal de Médecine de Bordeaux

Nov. 10, 1922, **94**, No. 21

Epidermomycoses. G. Petges.—p. 695.
*Therapeutic Value of Physical Culture. P. Cadenaule.—p. 700.

Physical Culture in Affections of Children.—Cadenaule had excellent results with systematic gymnastics in children suffering from adenoids, tuberculous habitus, neuritis or some other pathologic conditions. He emphasizes the beneficial effects on the development of body and mind, and especially on the normal sexual development of girls.

Journal de Médecine de Lyon

Dec. 20, 1922, **3**, No. 71

*Ascaris Outside of Human Intestine. J. Guiart.—p. 747.
*Human Parasitology in Roumania. N. Léon.—p. 751.
*Bronchopulmonary Spirochetosis. C. Garin and L. Morenas.—p. 759.
*Tick Paralysis. C. Garin and Bujadoux.—p. 765.

Spirochaeta Dentium in Gingivitis. Massia and Grigorakis.—p. 769.
*Anaphylaxis in Intestinal Helminthiasis. L. Morenas.—p. 773.

Survival and Cinematography of Ascaris Outside of the Human Intestine.—Guiart was able to keep ascarids, from the human intestine, living for several days. The animal keeps well in normal salt solution, which has to be changed twice daily. It is fed by an addition of human blood to the solution. After feeding, a change of the medium is necessary.

Human Parasitology in Roumania.—Léon reviews the human parasites in Roumania, and publishes a case of myiasis of the male urogenital tract.

Clinical Forms of Bronchopulmonary Spirochetosis.—Garin and Morenas draw attention to this affection because it has occurred in several epidemics since the war in Europe. Castellani's spirochetes are present in the sputum; other spirochetes and fusiform bacilli seem to be without importance. The typical form of the disease may be acute, with moderate fever for two to six days. The sputum is mucous and mucopurulent. If the bronchitis continues, the expectoration becomes bloody. In other cases the affection starts mildly and the first symptom is this red jelly-like sputum. Atypical cases may resemble ordinary bronchitis, pneumonia and bronchopneumonia. The diagnosis between tuberculosis and spirochetosis can be made only by examination of the sputum. Both diseases may be present at the same time. Iodids are useful in the treatment of this affection.

Tick Paralysis.—Garin and Bujadoux publish the first case observed in France.

Anaphylaxis in Intestinal Helminthiasis.—Morenas considers eosinophilia and Charcot-Leyden crystals in the feces of patients as the strongest indication of anaphylactic reactions.

Journal de Radiologie, Paris

November, 1922, **6**, No. 11

*Goetsch Test and Radiotherapy in Thyroid Disease. Tarnauceanu.—p. 501.
Two Intensifying Screens in Radiography. M. de Laroquette.—p. 511.

The Goetsch Test and Radiography of the Thyroid.—Tarnauceanu extols the value of the Goetsch test in hyperthyroidism. He used 1 c.c. instead of 0.5 c.c. of the 1:1,000 epinephrin solution. In conclusion he states that, on account of the remarkable results, this test should be adopted as a routine practice in radiology to sift out the cases suitable for radiotherapy.

Journal d'Urologie, Paris

November, 1922, **14**, No. 5

*Nephrolithotomy and Pyelolithotomy. A. Poussen.—p. 353.
"Lithotriolapaxy." M. Pavone.—p. 371.
*Endo-Urethral and Endovaginal Diathermy. E. Roucayrol.—p. 385.
Application of Radium with the Cystoscope. L. Buerger.—p. 409.
*Treatment of Gonorrhea. J. Janet.—p. 419.

Nephrolithotomy and Pyelolithotomy.—Pousson finds that nephrolithotomy does not disturb the renal function more than pyelolithotomy. Therefore, in the choice between these two operations, it is not necessary to consider the future of the patient which is the same in both. The indications are the site, form and size of the stone. Roentgenography is necessary, but in some cases only direct examination of the kidney can decide.

Endo-Urethral and Endovaginal Diathermy.—Roucayrol considers diathermy the method of choice in acute and chronic gonorrhea. It may even cure sterility from endometritis. Very few persons are intolerant.

Treatment of Gonorrhea.—Janet points out the necessity to examine filaments microscopically. Their persistence may in rare cases be due to a simple urethritis caused by continued treatment of a cured gonorrhea. On the other hand, men who have a perfectly clear urine, but who have gonococci in the first small drop in the morning, require treatment.

Paris Médical

Dec. 9, 1922, **12**, No. 49

*Senile Changes in the Eye. F. Terrien.—p. 517.
*The Wassermann Reaction with Fresh Serum. Durupt.—p. 519.
*Anaphylaxis. W. Kopaczewski.—p. 524.

Senile Changes in the Eye.—Terrien reviews the senile changes of eyes. Subconjunctival hemorrhages are frequent. They have no prognostic significance for hemorrhages of the brain. Miliary aneurysms in the retinal arteries are such a premonitory sign. They look like small pearls and may be mistaken for a bend in the vessel. The formation of a cataract is sometimes preceded by improvement of hypermetropia, from sclerotic changes in the lens. The turbidity under oblique illumination must not be mistaken for a beginning cataract; the lens is perfectly clear when examined with an ophthalmoscope.

The Wassermann Reaction with Fresh Serum.—Durupt had 15 per cent. more correct positive Wassermann reactions when using fresh serum and its complement and natural hemolysin against sheep corpuscles. The positive reaction with fresh serum is earlier, remains longer during treatment, and is often the only positive reaction in hereditary syphilis. The hemolytic index of the serum (its content of complement and natural hemolysin) must be tested.

Anaphylaxis.—Kopaczewski discusses the terminology and theories of proteinogenous shock.

Presse Médicale, Paris

Dec. 16, 1922, **30**, No. 100

*Diuretic Action of Mercurials. L. Blum and H. Schwab.—p. 1081.
*Roentgen-Ray Epithelioma Cured by Diathermy. H. Bordier.—p. 1083.
*Modern Classification of Nephritis. Wolf.—p. 1084.

Diuretic Action of Mercurials.—Blum and Schwab investigated the diuretic properties of compounds of mercury by injecting from 4 to 5 cg. of cyanid of mercury intravenously. An injection of 1 cg. was used to test the sensibility to the drug. The diuretic effect was marvellous in one cardiac case in which the edema had resisted other medication. In another case the injection was fatal. Investigation of the ureosecretory coefficient showed in every case, treated with mercury, actual injury of the kidneys. As in azotemic nephritis, it affected the elimination of urea, but not of sodium chlorid. Even in healthy subjects on a salt-free diet, the injection was followed by increased elimination of chlorids. It is possible that the drug has also some action on the tissues, although its principal effect seems to be on the kidneys. Therefore, this treatment is absolutely contraindicated in nephritic edema, and should be used very cautiously in other diseases, and only after every other form of treatment has failed.

Roentgen-Ray Epithelioma Cured by Diathermy.—Bordier publishes another very successful case and describes his electrodes.

Modern Classification of Nephritis.—Wolf concludes his report on the new German classification (Volhard and Fahr).

Progrès Médical, Paris

Dec. 9, 1922, **37**, No. 49

*The Training of Midwives. C. Jeannin.—p. 573.
*Tuberculosis and Dental Caries. Siffre.—p. 580.

The Training of Midwives.—Jeannin's inaugural lecture deals with the training of midwives.

Tuberculosis and Dental Caries.—Siffre found that teeth contain usually a little more than 66 per cent. of mineral substances. Caries does not occur more frequently in teeth with a lower content. Caries has no relation to a demineralization of the teeth nor to tuberculosis. The influence of tuberculosis can be only the same as that of other nutritional disturbances. Pregnancy, infancy, and puberty are the only periods of importance for the formation of teeth.

Dec. 23, 1922, **37**, No. 52

*Malta Fever and Fixation Abscess. H. Roziès.—p. **671**.
*Vicarious Menstruation. Dalché.—p. 672.
*Isolation of Vitamin A. Tetsuwo Kagawa.—p. 674.
Treatment of Infantile Syphilis with Arsphenamin. Paul-Boncourt and J. Clement.—p. 675.

Malta Fever and Fixation Abscess.—Roziès describes a case of Malta fever which started ten days after the patient had taken, for the first time in her life, raw goat's milk. The usual treatment failed, but recovery followed a fixation

abscess. He insists on using really old turpentine, in higher doses than are usual (2 to 3 c.c.). The earlier the injection is made, the better the results.

Vicarious Menstruation.—Dalché attributes bleeding from different organs at the time of menstruation to complex endocrine and neurotic disturbances.

Isolation of Vitamin A.—Kagawa reports the isolation of vitamin A by Katsuya Takahashi. Ten grams of this substance were extracted from 1 kg. of cod liver oil; 0.0001 gm. was sufficient to cure an animal dying from deficient diet. The fluid substance keeps well in alcoholic or fatty solution. It contains 81 per cent. carbon and 10 per cent. hydrogen, and resembles cholesterol.

Pediatria, Naples

Dec. 15, 1922, **30,** No. 24

*Mixed Typhoid and Malta Fever. L. Auricchio.—p. 1155.
*Vitamins in Milk and Rachitis. R. Pollitzer.—p. 1164.
*Leishmaniasis in Messina. G. Castorina.—p. 1173.

Mixed Infection with Typhoid and Malta Fever.—Auricchio publishes four cases of combined Malta fever and typhoid, and one case with paratyphoid. The typhoid infection dominates the picture.

Experiments on the Relation of Vitamin Content of Milk to Rachitis.—Pollitzer reviews the pathogenesis of rachitis, and emphasizes the secondary (or indirect) decalcifying factors. These factors inhibit the action of vitamin A. Since it is soluble in fat, disturbances of digestion may prevent its absorption. Absence of muscular activity is another such factor. The importance of light is well known. He fed rats on foods without vitamin A, and then gave in addition milk from women whose children were healthy and others who were nursing rachitic children. The addition of 5 c.c. of such milk every second day caused a moderate increase in weight without any difference between the two groups. He does not consider these results as final. The congenital reserve in vitamins seems to be an important factor in the development of rachitis.

Leishmaniasis in Messina.—Castorina gives a survey of forty-four cases of leishmaniasis in children living in Messina and surroundings. Antimony tartrate was injected intravenously. Clinical improvement began usually after the fifteenth injection.

Policlinico, Rome

Dec. 11, 1922, **29,** No. 50

*Radical Cure of Varicocele with Orchidopexy. P. Amorosi.—p. 1621.
*Nitritoid Crises After Arsphenamin. B. Lo Vullo.—p. 1626.
Case of Malignant Neoplasm of Left Lung. G. Miracapillo.—p. 1631.

Radical Cure of Varicocele with Fixation of Testicle.—Amorosi describes in detail the operation devised by Paravecchia. His experiments show that it is harmless as regards the nutrition and function of the testes. This cannot be said for other methods.

So-Called Nitritoid Crises from Defective Preparations of Arsphenamin.—Lo Vullo proves that these crises are simply due to bad preparations.

Riforma Medica, Naples

Dec. 11, 1922, **38,** No. 50

*Pseudotuberculosis Due to Nocardia. I. Iacono.—p. 1181.
Bilateral Mammary Carcinoma. C. F. Bianchetti.—p. 1183.
*Isotonic Infusions of Salt and Glucose. E. Zagari.—p. 1186.
Purulent Pericarditis. P. Orsini.—p. 1188.
Diagnosis of Gastric and Duodenal Ulcers. L. Torraca.—p. 1190.

Pseudotuberculosis Due to Nocardia.—Iacono describes a case of pseudotuberculosis of lungs due to the nocardia. Its mycelium in the sputum is acid-fast and may be mistaken for the tubercle bacillus. The site of predilection is the base of the lungs. Inconstant fever, mucopurulent sputum (sometimes containing blood), and chronic bronchopneumonia leading eventually to the formation of cavities, are the usual signs.

Isotonic Infusion of Salt and Glucose.—Zagari compared the effects of hypodermoclysis with a 4.7 per cent. solution of glucose and a 0.75 per cent. solution of sodium chlorid. He finds that glucose infusions have a better influence on the heart, kidneys, nerves and muscles, while salt solutions depress the output of work, the muscle tonus and reflex excitability.

Anales de la Facultad de Medicina de Montevideo

September-October 1922, **7,** No. 7-8

*The Nerves in Fracture of the Wrist. A. Navarro.—p. 395.
*Postoperative Cardiac Insufficiency. E. Blanco Acevedo.—p. 399.
Surgical Treatment of Constipation. A. Lamas.—p. 402.
Shock in Gynecology and Obstetrics. A. Turenne.—p. 409.
Prophylaxis of General Paresis. F. S. Garmendia.—p. 433.
Unusual Locations of Hydatid Cyst. A. Roldán.—p. 442.
The Recurring Subcutaneous Mucous Chancre. J. Travieso.—p. 449.
*Experimental Chronic Irritation. C. Stajano.—p. 467.
*Refusal to Submit to Operation. D. Prat.—p. 470.
The Planes in Anatomy of the Mediastinum. J. Humberto May.—p. 480.
Chemical Study of Tartrobismuthate of Sodium and Potassium. A. Bocage et al.—p. 483.
Syphilitic General Pustular Eruption. A. Bellagamba.—p. 501.

Compression of Median Nerve in Fracture of Wrist.—In one of Navarro's two cases the nervous disturbances developed slowly but were pronounced by the third month. The fracture had been treated without immobilization, and secondary deformity, with compression of the median nerve, resulted.

Acute Postoperative Cardiac Insufficiency.—Blanco Acevedo warns against assuming the presence of hemorrhage when dyspnea, precordial pain and other symptoms after an operation indicate acute insufficiency of the heart. In two cases described, digitalis by the vein promptly restored normal conditions.

Experimental Chronic Irritation.—Stajano says that his experiments on animals have confirmed the importance of revulsion in the treatment of trophic lesions. They also sustain the theory of trophic centers.

Refusal to Submit to Needed Operation.—Prat discusses the equity of awarding a pension to a man, aged 61, incapacitated by hemorrhoids who refused operative relief.

Archivos Españoles de Pediatría, Madrid

November, 1922, **6,** No. 11

*The Prescurvy Stage. Jose Estella y B. de Castro.—p. 641.
*Erysipelas in Two Sisters. C. S. de los Terreros.—p. 655.
Pathology of the Esophagus. A. Hinojar.—p. 669.

The Prescurvy Stage.—In fully 50 per cent., scurvy does not develop beyond the preliminary phase. Even then there is evidence of dystrophy, weakness and angiomalacia. Edema should always suggest a possible "prescurvy" condition. The changes in the bones are too characteristic to be mistaken for any other affection except possibly Parrot's osteochondritis.

Erysipelas in Two Sisters.—The children went to confession together, and each developed the next day a patch of erysipelas on the cheek that had rested on the woodwork of the confessional.

Prensa Médica Argentina, Buenos Aires

Nov. 20, 1922, **9,** No. 17

*Effects of Irritation of Splanchnic Nerves. B. A. Houssay.—p. 490.
Vaccination Against Diphtheria. Bachmann and de la Barrera.—p. 499.
*Typhoid Bacilli Carriers. M. J. Barilari and R. O. Rodriguez.—p. 500.

Factors in Rise in Blood Pressure After Irritation of Splanchnic Nerves.—Houssay reports experiments on cats and dogs which demonstrated that irritation of the splanchnic nerves increases the secretion of epinephrin. The inevitable rise in blood pressure is due in part to the increase in epinephrin, but mainly to neuromuscular vasoconstriction by the direct action of the irritated splanchnic nerves.

Treatment of Typhoid Bacilli Carrier.—There was a history of typhoid at the age of 5 and again at 25, 29, 30, 33 and 34. The last attack began with acute gallbladder symptoms, and the retrospective diagnosis was chronic typhoid infection of the gallbladder with periodic exacerbations. No typhoid bacilli have been found in the stools since the gallbladder was removed. The family history contains several cases of cholelithiasis, which indicate an inherited substandard condition of the biliary apparatus.

Dec. 10, 1922, **9,** No. 19

*The Spinal Fluid in Neurosyphilis. C. Bonorino Udaondo and O. Catalano.—p. 553.

*Syphilis of the Mamma. M. R. Castex and L. G. Bouzat.—p. 558.
*Biopsy. S. Mazza and M. Balado.—p. 564.
*Hemoclastic Crisis in Insufficiency of Liver. A. B. Ribeyrolles.—p. 570.
Research on Chronaxia. V. Tedeschi.—p. 578.
Lumbar Puncture in Neurosyphilis. J. B. Arizabalo.—p. 583.

The Spinal Fluid in Neurosyphilis.—The findings are tabulated with seven parallel tests of the cerebrospinal fluid in 130 cases of neurosyphilis and other affections of the central nervous system. They confirm the reliability of the Nonne phase I and the Pandy test. The Emanuel reaction is constantly positive in neurosyphilis.

Syphilis of the Mamma.—Castex and Bouzat remark that a gumma in the mamma usually develops more rapidly than an adenoma. In one case, however, an adenoma grew in five days to the size of an egg. Ulceration occurs earlier with a gumma than in malignant disease, but the axillary glands are not involved so early. In a case described, there was no secretion from the fistula opening from the small tumor in the left breast, but there was bilateral hemorrhagic effusion in the pleura. Syphilis was known in the antecedents of the woman, aged 43, and under specific treatment the tumor subsided to a very small lump. In a second case the tumor had grown rapidly in seven days, but began to retrogress at the first mercurial treatment, and was soon reduced to a fifth of its former size. In both cases the tumors were adherent to the skin but not to the lower tissues. The axillary glands were enlarged in the second but not in the first case.

Diagnostic Biopsy.—Mazza and Balado review the technic for obtaining scraps of tissue for microscopy, and the interpretation of the findings.

The Hemoclastic Crisis in Diagnosis of Insufficiency of the Liver.—Ribeyrolles' experience has confirmed Widal's statements as to the reliability of the leukopenia which follows drinking 200 gm. of milk while fasting, as indication that the liver function is below par.

Archiv für Klinische Chirurgie, Berlin

Dec. 20, 1922, **9**, No. 20

*Physiopathology of Pneumoperitoneum. P. Alessandrini.—p. 589.
Efficacy of Arsenical Treatment by the Mouth in Intestinal Flagellosis. S. Mazza and E. V. Merlo.—p. 591.
*Infantilism of Renal Origin. M. Acuña and J. P. Garrahan.—p. 594.
Recurring Inguinal Hernia. M. Balado.—p. 604.
Pupil Membrane Simulating Aplasia of Iris. E. Adrogué.—p. 610.
Practical Psychometer. A. Mo and J. L. Alberti.—p. 612.
Operative Correction of Ankylosis of Knee. A. Ceballos.—p. 616.

Pneumoperitoneum.—Alessandrini has been studying the physiopathology of artificial pneumoperitoneum in 200 cases. It is a harmless procedure which throws light on the physiology of the abdomen.

Infantilism of Renal Origin.—Pure uremic nephritis was accompanied by stunting of growth. On suspicion of inherited syphilis, mercurial treatment was given but it aggravated conditions. The boy died at the age of 16. In a second case the boy seemed about 6 years old although really 9. Some improvement was realized under heliotherapy and dieting, but the urea in the blood kept high.

Revista de la Asoc. Médica Argentina, Buenos Aires

October, 1922, **35**, No. 216

*Periarthritis of Tuberculous Origin. G. Peco.—p. 587.
*Typhoid and Syphilis. M. Angel Marini.—p. 596.
*Intussusception in Infants. M. Ruiz Moreno.—p. 603.
*Thrombosis from Physical Effort. O. Ivanissevich.—p. 627.
Foreign Bodies in Digestive Tract. Carlos I. Allende.—p. 633.
Ophthalmoscopy Under Light Free from Red Rays. R. Gil.—p. 637.
*Research on Snake Venoms. B. A. Houssay and J. Negrete.—p. 649.
Idem. Houssay and S. Pave.—p. 680. Idem. Houssay et al.—p. 699.
*Toad Poison. V. Novaro.—p. 715.
*Nature of Bacteriophagy. C. E. Pico.—p. 734.

Tuberculin Treatment of Periarthritis.—The young woman's fingers were all swollen at the second joint and tender. Then the knees and ankles developed similar periarthritis. Signs of inherited syphilis suggested specific treatment, but no benefit followed a systematic course of neo-arsphenamin. By exclusion, tuberculosis was diagnosed, and under tuberculin treatment for four months the hands returned to normal aspect and approximately normal function.

Typhoid with Syphilis.—Marini's case teaches that old latent syphilis may flare up during typhoid fever, and may prolong and render atypical the typhoid. The syphilis was probably inherited in his case. On the forty-fifth day of the typhoid a papulous eruption developed. Under mercurial treatment recovery was prompt; the typhoid bacilli soon disappeared from the blood.

Intussusception in Infants.—Fourteen of Ruiz' sixteen cases were in breast fed infants. There was no blood in the stool in four. The five infants who did not receive operative treatment until after an interval of two or three days, all died.

Thrombosis from Physical Effort.—Ivanissevich adds two to the twenty-one cases on record in which edema of the entire arm, from thrombosis in the axillary vessels, developed after straining the arm in moving furniture, or other unusual and extreme effort.

Hemolytic Action of Venoms.—Houssay and Negrete's extensive research with twenty different kinds of South American snakes confirms the specificity of the antihemolytic action of the antivenoms.

Toad Poison.—Novaro relates an Argentina tradition that herpes zoster can be cured by binding a toad on the affected area. In two cases in which this was done, there was rapid ulceration and one patient, a robust young man, died in thirty-three hours. In the other case, ulceration persisted for nearly two months. Secretion from the parotid glands of toads (*Bufo marinus*) proved very toxic for pigeons, rabbits and other laboratory animals.

Bacteriophagy.—Pico presents further evidence to sustain his contention that bacteriophagy is merely an activation of the normal autolysis of bacteria.

Archiv für Gynäkologie, Berlin

Nov. 21, 1922, **116**, No. 2

*Lipoids in Ovaries. F. v. Mikulicz-Radecki.—p. 203.
Pathogenesis of Menorrhagia and Metrorrhagia. A. Seitz.—p. 252.
*Blood Changes Under Roentgen-Ray Treatment. K. Heim.—p. 291.
*Protein Therapy and Coagulation. R. Salomon and E. Vey.—p. 317.
Adenomyomas and Adenomyometritis. S. Westmann.—p. 333.
*Operability of Metastatic Ovarian Tumors. E. E. Pribram.—p. 343.
*Tetany in the Pregnant. W. Niderehe.—p. 360.
*Sedimentation of the Blood. A. Mahnert and K. Horneck.—p. 383.
*Laryngeal Tuberculosis and Pregnancy. P. Schumacher.—p. 391.
*Treatment of Eclampsia. Stroganoff.—p. 406.
*Vaginal Operation for Genital Prolapse. B. Dittrich.—p. 412.
Pathology of Tubal Pregnancy. E. Kratzeisen.—p. 421.

Lipoids in Human Ovaries.—The findings are analyzed and interpreted from 120 cases. The subjects ranged in age from a three months' fetus to the menopause. They confirm the corpus luteum as a gland with an internal secretion.

Changes in Blood from Roentgen Exposures.—Heim recorded the differential blood count the day before and the day after deep roentgen-ray treatment, and again at weekly intervals. The effect of the irradiation on the different elements of the blood was pronounced, and proportional to the intensity of the application of the rays. His research emphasizes the necessity for waiting for the blood to recover its balance before repeating the exposure. He consequently advises a wait of six weeks after a radical operation before beginning prophylactic irradiation. Exposures with large doses modify the leukocytes so materially that eight weeks at least must elapse before the series is resumed.

Influence of Parenteral Protein Therapy on Coagulation of the Blood.—In the research reported, various proteins and chemicals checked coagulation but had the opposite effect when diluted to one tenth. By intravenous or intramuscular injection, a pronounced change in the coagulation of the blood was evident. This may have a practical application as a preliminary to operations, by enhancing the preparedness of the blood for coagulation.

Operability of Ovarian Tumors.—Pribram reiterates the importance of seeking for a primary tumor elsewhere in all cases of cancer in the ovary. In two of the three cases described, the primary malignant disease was in the gallbladder. His favorable experience suggests that metastasis in the ovaries does not necessarily preclude the successful removal of the primary focus in the alimentary tract or gallbladder. The metastasis in the ovaries was probably from implantation in two of his cases. If lymphatics are involved, this modifies the outlook.

Tetany in the Pregnant.—Niderehe states that in the 70 cases of tetania gravidarum which he has found on record, the infants had fatal convulsions in the first weeks in 12 cases; abortion occurred in 3; the fetus was macerated in 4, and there was spontaneous or induced premature delivery in 4 and in 2, respectively. In a case personally observed, the tetany developed for the first time during the fifth pregnancy and returned at the sixth and seventh pregnancies, growing progressively more intense. The infant at the last delivery presented a combination of congenital tetany and a disturbance in bone growth which might be called congenital rachitis. The parathyroid glands and the thymus seemed to be constitutionally inferior.

Sedimentation of the Blood Corpuscles.—Mahnert and Horneck discuss the speed of sedimentation of the red corpuscles in puerperal septic processes under various treatments.

Pregnancy and Tuberculosis.—Schumacher relates that the laryngeal tuberculosis became decidedly aggravated about the fourth month of the pregnancy in his ten patients. All died soon after delivery or interruption of the pregnancy except one who survived for two years in fair condition after abdominal supravaginal amputation of the pregnant uterus at the sixth month. This operation not only relieves at the time but wards off further pregnancies. One or both ovaries are left, and the operation is done under intraspinal anesthesia. Of the seventeen pregnant women with pulmonary tuberculosis in the first or second stages treated by amputation of the uterus, 83.3 per cent. are still living in good condition from one to nine years later. He pleads for this operation in every case of laryngeal tuberculosis in the early months of a pregnancy. If approaching term, no operation offers any hope of success. With latent tuberculosis, he urges that the women should be reexamined every two weeks all through the pregnancy, so that the pregnancy can be terminated at the first signs of the flaring up of the process.

Treatment of Eclampsia.—Stroganoff here brings down to date his experience with the "prophylactic" method of treating eclampsia, which he has been applying for twenty-four years—2,208 cases in all. The mortality of the mothers under it was 9.8 per cent. and the mortality of the children was 12.9 per cent.—less than with other methods. He advises supplementary venesection in the severer cases, and states that in the last seven years he has given larger amounts of the sedative during the first two or three hours. There have been no deaths during these seven years except of patients moribund when first seen.

Vaginal Operation for Genital Prolapse.—Dittrich relates that three died of the 340 women on whom he has operated in this way. The deaths were all due to embolism.

Monatsschrift für Kinderheilkunde, Leipzig

November, 1922, **24**, No. 2

*Regeneration of Blood in Infancy. H. Opitz.—p. 113.

Regeneration of Blood in Infancy.—Opitz tried comparatively large infusions of blood in different anemic conditions in infants. The amounts to be infused were computed to bring the number of corpuscles in the child to normal. They were repeated after from four to ten days, as often as necessary. The results were very good except in two children with lymphosarcoma and myeloid chloroma. He believes that the injected corpuscles are not destroyed, because the signs of regeneration (erythroblasts, basophilic stippling, etc.) disappear from the blood. It is probable that the injected blood takes up part of the work, and gives the bone marrow time to rest and recover. Mixed diet and a moderate reduction of milk may hasten the recovery of the patients.

Münchener medizinische Wochenschrift, Munich

Dec. 15, 1922, **69**, No. 50

*Blood Pressure During Sleep. G. Katsch and H. Pansdorf.—p. 1715.
*Constitution in Obstetrics and Gynecology. A. Mayer.—p. 1718.
Movement of Leukocytes and *pH*. S. Gräff.—p. 1721.
*Circulation of Cerebrospinal Fluid. H. Strecker.—p. 1726.
*Sedimentation of Corpuscles. A. Horvat.—p. 1729.
Technic of Cultivation of Anaerobes. Kämmerer and Speth.—p. 1730.
*Heart and Breathing During Hypnosis. P. Astruck.—p. 1730.
PreHomeric Necropsies? E. Fuld.—p. 1731.
Examination of Infant Nurses in Bavaria. J. Meier.—p. 1731.
Vaccination Against Typhoid.—p. 1732.
Accidents in Appendectomy. A. Krecke.—p. 1733.

Blood Pressure During Sleep.—Katsch and Pansdorf were able to study the blood pressure of patients during sleep. The main point was to lead the rubber tubes into another room, to increase the pressure of the band slowly and read the pressure quickly. The systolic pressure is normally lower, but the diastolic does not change, except for a slight increase during very deep sleep. Thus the amplitude of the pulse is decreased from both ends. Some patients with hypertension presented marked decrease in blood pressure, and "sleeping cures" might be advisable for them. Other hypertonics (two cases of uremia) had no decrease in the pressure.

Constitution in Obstetrics and Gynecology.—Mayer reviews constitutional signs in gynecology. The movable retroflexion is a very frequent occasion for useless and superfluous operations. The endocrine disturbances are very important, and psychoneuroses are a much more frequent cause of supposed gynecologic disturbances than is realized.

Circulation of Cerebrospinal Fluid.—Strecker's experiments show that drugs introduced into the lumbar sac in man reach the brain after a certain time, and suggest that there is a circulation of the cerebrospinal fluid.

Sedimentation of Corpuscles.—Horvat's experiments show the importance of the use of equal tubes and equal amounts of blood for comparison.

Psychic Influence on Heart and Breathing During Hypnosis.—Astruck was able in the hypnosis to influence the action of heart and breathing very strongly. Several times he observed a bigeminal pulse during his experiments.

Wiener klinische Wochenschrift, Vienna

Dec. 14, 1922, **35**, No. 50

*Thyroid Problems. B. Breitner.—p. 969.
Sedimentation of Corpuscles. H. Poindecker and K. Siess.—p. 971.
Conc'n No. 51.
*Lymphatic Reaction. H. Baar.—p. 973.
*Epidural Injections in Sciatica. F. Högler.—p. 974.
*Preparation of Colloidal Gold Solution. E. Friedländer.—p. 975.
Intensive Roentgen-Ray Treatment. G. Holzknecht.—p. 975.
French Views on Icterus. F. Stohr.—p. 976.
Conc'n.

Thyroid Problems.—Breitner gives four types of diffuse affection of the thyroid: hypotrophic-hyporrhoic, in which production and evacuation of secretion are diminished; eutrophic-hyporrhoic, with normal production and insufficient elimination; eutrophic-hyperrhoic with normal secretion and increased elimination, and hypertrophic-hyperrhoic, where both are increased.

Lymphatic Reaction.—Baar describes a case of tonsillitis in a 5 year old boy with leukocytosis of 18,000 and only 15 per cent. of neutrophils. On recovery, there were 42⅓ per cent. neutrophils. A subsequent injection of milk produced a neutrophil leukocytosis (75.5 per cent.). Baar assumes not only an abnormal predisposition, but also some chemotactic action of the germs as responsible for the strong lymphocytosis.

Epidural Injection of Antipyrin in Sciatica.—Högler reports very good results from epidural injections of 10-20 c.c. of an aqueous solution of from 1 to 4 gm. antipyrin. The injection should not be repeated before two days. When the pains are limited to the extremity, a perineural injection is sufficient.

Preparation of Colloidal Gold Solution.—Friedländer found that the reduction of gold chlorid is inhibited, if the potassium carbonate contains bicarbonate. Cautious heating restores the needed purity.

Acta Chirurgica Scandinavica, Stockholm

Dec. 22, 1922, **55**, No. 4

*Perforation of Gastric and Duodenal Ulcers. E. R. Schmidt.—p. 313.
*Experimental Cancer Research. J. Fibiger.—p. 343.
*Xanthosarcomas in Tendon Sheaths. A. Krogius.—p. 363.
Hematoma in Rectus Muscle in Typhoid. F. Rost.—p. 385.
*The Steinach Operation. K. Sand.—p. 387.
*Arterial Embolectomy. E. Michaelsson.—p. 427.

Perforation of Gastric and Duodenal Ulcers.—In 5 of the 44 cases described, there had been no history of preceding stomach or duodenal disturbance. All 44 patients were

treated by excision and suture of the perforation. The ulcer was excised longitudinally and the gap sutured transversally. A Witzel fistula allowed feeding from the start, and served as a safety valve. Smooth recovery followed thorough irrigation of the abdomen with normal salt solution at 40 C. Of the 22 reexamined later, only 2 have had a return of the ulcer, but patients should always be warned of the possibility of recurrence of both ulcer and perforation, the necessity of an ulcer diet, and the wisdom of remaining under medical control for some time.

Experimental Cancer.—Fibiger prepared this French article as an address for the postponed congress on comparative pathology. His data indicate that predisposition to cancer is restricted to certain races and species, and probably also to certain organs. Experimental cancers have opened a vast new field for research in the problem of immunization. He remarks in conclusion that animals immunized against ingrafted cancer are as liable to develop tar cancer as the nonimmunized.

Xanthosarcomas of Tendon Sheaths.—In Krogius' four cases the growth was on the leg or hand, and was safely removed. The patients were adults. In a girl, aged 11, there were several tuberous xanthomas and the incommoding ones were removed though some recurred.

The Steinach Operation.—Sand's article was reviewed when it appeared in a Danish journal. It is in English here, and summarizes eighteen cases of epididymectomy by Steinach's method.

Arterial Embolectomy. — One of Michaëlsson's three patients survived the embolectomy. He recommends lifting up the vessel with a rubber tube instead of with a metal instrument.

Acta Pædiatrica, Upsala

Dec. 16, 1922, **2**, No. 2

*Comparison Between Medicinal-Dietetic Treatment and Light Treatment in Rachitis. I. Jundell.—p. 113.
*Butter-Flour Pap. H. Ernberg.—p. 149.
*Chorea. R. Nordgren.—p. 159.
*Genuine Contracted Kidney in Children. A. Wallgren.—p. 169.
*Treatment of Diabetes in Children. N. Johannsen.—p. 180.

Comparison Between Medicinal-Dietetic Treatment and Light Treatment in Rachitis.—Jundell reports twenty-one cases of rachitis treated partly by phosphorized cod liver oil and phosphate of calcium, partly by quartz lamp and partly by both methods. He measured the results chiefly by the softening of the bones of the skull. The first treatment, together with a reduced diet, is advisable in overfed children, or when systematic treatment by light is not available. The light treatment is indicated in undernourished and sick (tuberculous) children.

Butter Flour Pap.—Ernberg had good results in 375 cases and confirms the indications and contraindications of the browned butter-flour mixture in infant feeding.

Chorea.—Nordgren observed increased frequency of chorea in certain periods which occur at the same time or follow closely an increased frequency of rheumatism.

Genuine Contracted Kidney in Children.—Wallgren reports a rare case of genuine contracted kidney in an 8½ year old girl. No edema was ever present. The child died with symptoms of uremia (azotemic). Small parts of the kidneys were hypertrophic, otherwise the picture resembled the contracted kidneys of adults.

Treatment of Diabetes Mellitus in Children.—Johannsen reports favorably on Joslin's method in the treatment of seven diabetic children.

Hygiea, Stockholm

Dec. 16, 1922, **84**, No. 23

*The Cerebellum. S. Ingvar.—p. 977.

The Cerebellum.—Ingvar presents this study of the cerebellum from the standpoints of anatomy, physiology and the clinic. He regards the cerebellum as a central ganglion for a specific sense, which informs us of the relations between our body and the laws of gravity and inertia. As these laws affect all alike, we can understand why the cerebellum, in all vertebrates, presents the same histologic picture.

Svenska Läkaresällskapets Handlingar, Stockholm

Dec. 30, 1922, **48**, No. 4

*Surgical Treatment of Gastric and Duodenal Ulcer. E. Hedlund.—p. 209. Conc'n.
*Syphilis as Factor in Thyroid and Pituitary Disease. F. Lennmalm.—p. 257.
Opacity of Cornea on Compression of Eye. J. W. Nordenson.—p. 279.

Surgical Treatment of Gastric and Duodenal Ulcer.—Hedlund gives full summaries of 455 cases in which he has operated, with the history to date. Complete recovery was prompt and more certain after extensive resection of the pylorus than after any other operation. He is personally acquainted with most of the patients. There has been no evidence that removal of such a large part of the stomach has had any deleterious consequences. Local anesthesia alone was used in some of the cases, but even this does not guarantee against postoperative pneumonia.

Syphilis as Factor in Thyroid and Pituitary Disease.—Lennmalm reports five cases of myxedema in syphilitic adults. The myxedema and recurrences subsided under thyroid treatment. He cites a number of similar cases from the records. In another group of patients, syphilitic thyroiditis developed in an old goiter. The symptoms were those of exophthalmic goiter; they materially improved in a personal case under mercurial and roentgen-ray treatment. Acromegaly in syphilitics may retrogress under specific treatment. His personal cases of dystrophia adiposogenitalis and a large number from the literature indicate that syphilis is a comparatively frequent factor in this condition. Improvement under specific treatment is common, as also in diabetes insipidus.

Ugeskrift for Læger, Copenhagen

Jan. 4, 1923, **85**, No. 1

*Chronic Dyspepsia in Young Infants. C. E. Bloch.—p. 1.
*Professional Roentgen Anemia. K. Faber.—p. 8.
*New Law on Marriage and Divorce.—p. 14.

Chronic Dyspepsia in Young Infants.—Bloch's experience has convinced him that a condition of chronic dyspepsia and atrophy in young infants is due to simple insufficiency of the digestive glands. This substandard state of the glands may be congenital, or be the result of overtaxing the digestive organs.

Fatal Acute Aplastic Pernicious Anemia in Roentgenologist.—Faber relates the particulars of the fatal illness of Dr. Nordentoft, who for twelve years had been intensively engaged in roentgenotherapy. Faber compares three similar cases since 1913, and three English cases of similar injury from the use of radium. He adds that means for better protection of physicians and attendants are an urgent necessity.

Medical Features of New Danish Law on Marriage.—Some of the medical aspects of this law were mentioned in the News department recently, page 335.

Jan. 11, 1923, **85**, No. 2

*Insulin in Treatment of Diabetes. A. Krogh.—p. 21.
Autoserotherapy of Tuberculous Pleural Effusion. V. Petersen.—p. 25.

Insulin in Treatment of Diabetes.—Krogh relates the history of this new treatment of diabetes, of which he made a special study while in this country. Probably it will be long before insulin can be imported into Denmark. He discussed with the Toronto professors the possibility of Danish collaboration in further research, especially in the use of fish instead of beef pancreas. In collaboration with Drs. Hagedorn and Johansen the work is now well under way at Copenhagen, with both fish and beef pancreas. Krogh arrived in Denmark, December 12, and by December 21 the first batch of insulin was completed and its potency confirmed on rabbits. The methods of standardization have already been improved. In order to hasten matters, he decided to place the manufacture in the hands of a private firm, instead of a state institution. The state later can take it over, if found desirable. The price is to be kept down as low as possible, as in America. [Krogh received the 1920 Nobel prize in medicine for his research on gaseous interchanges, capillary circulation, etc.]